

Columbia River Gillnetter

Columbia River Fishermen's Protective Union

Spring-Summer 1996 / Vol. 27, No. 1



NO. 39. 1500 POUND STURGEON CAUGHT IN SNAKE RIVER, NEAR PAYETTE IDAHO.

Fishermen's Groups and Environmental Groups File Suit Again

The lawsuit accuses the National Marine Fisheries Service, U S Army Corps of Engineers and U S Bureau of Reclamation of failing to operate the eight dams on the lower Snake and Columbia Rivers in a manner that will help fish survive.

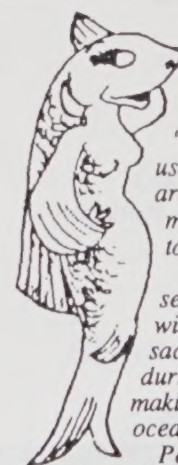
It asks the Court to order the fisheries service to develop a better recovery plan and the order agencies to follow the old one in the meantime.

The lawsuit took specific aim at the Army Corps of Engineers, which operates most of the dams. The Corps has long been a critic of the practice of spilling water over dams to help fish down-river. Instead, the Corps favors collecting the smolts upriver and barging or trucking them past the dams.

The lawsuit accuses the Corps of:

- 1) Abandoning research and testing of reservoir drawdown measures;
- 2) Undermining the spill program at the dams;
- 3) Failing to provide money for devices to hold down the levels of nitrogen gas bubbles below the spillways;
- 4) Scaling back its program to monitor gas bubble disease;
- 5) Abandoning a requirement that it study possible changes in operations of the reservoir at John Day Dam.

The plan they are using now is the fourth developed by the fisheries service and repeats the key errors of the past.



Sally the Salmon Says...

"Selfish thinking by all the users of the Columbia River are making it impossible for me to survive. No one wants to give in.

Irrigators should be more sensitive to my needs and be willing to make greater sacrifices in their water use during times when smolts are making their journey to the ocean.

Power users, too, need to make sacrifices. The Columbia River Alliance constantly puts the blame on commercial fishermen and wants to put them out of business so they can have cheap power for the aluminum companies and other industries."

On deck

Salmon Counts, page 6

SFA News, page 12

Youngs Bay, page 16

Sea Lion Invasion, page 19

Journey of the Kings, page 22

Columbia River Collosus, page 24

Changing Markets, page 25

Tide Point Delemma, page 27

The Dammed Columbia, page 30

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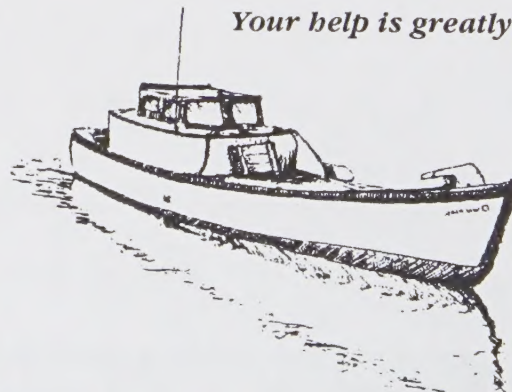
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The *Columbia River Gillnetter* is the only remaining publication on the west coast devoted exclusively to gillnetting. We have been making a difference for more than 27 years, but our continued existence is threatened by increasing production and mailing costs. Now more than ever, we need a voice to represent our side of the issue, and the *Gillnetter* is our only contact with fishermen, lawmakers and the general public.

If you would like to help, send donations to Columbia River
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*Columbia River Gillnetter
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The Columbia River Gillnetter is published seasonally for the Columbia River Fishermen's Union. Articles, letters and photographs are welcome for submission.

Editorial

This year was the year of the '96 flood. Almost as bad as the Vanport flood back in the late 40's.

We were given a 3-day winter season but that was before the flood came. High water and debris and mud made net fishing dangerous and almost impossible. About 45 fishermen tried but only 102 salmon were landed.

Sea lions and seals are once again on the lower Columbia River. Some have made it to Willamette Falls and they are also in Youngs Bay and tributaries and sloughs on up the river. Something has to be done to control their ever-increasing numbers. These are California sea lions. They crawl up on navigation buoys, floats in the marinas and yet the environmentalists don't want to control them. They are becoming like the locust plague - eat everything in sight - even the flounders have disappeared in the lower river. Just think how many endangered Snake River fish are eaten every day to sustain their voracious appetites.

No one seems to care and no one is doing anything about it here on the Columbia River. Think about it.

Don Riswick

New Sturgeon Regulations Set for 1996

Anglers will only get to keep one sturgeon instead of two this year.

And no "high grading": the practice of catching one sturgeon and tying it alongside the boat only to catch a bigger fish later in the day and letting the smaller one go. Sturgeon are hardy, but the resulting rope scar steals protective fish slime from the big fish.

The commission set the new limits to head off potential over-fishing on sturgeon. The point of the new restriction is maintaining a consistent level of legal-sized sturgeon between 42 and 66 inches.

[following paragraphs from newspaper clipping - no credit given]

Last year's sport fishing bonanza snagged 45,100 sturgeon before the state limits were instituted. Some fishermen said that anglers actually caught close to twice that number.

Intense fishing in 1987 caught more than 60,000 sturgeon, according to Oregon Department of Fish and Wildlife

figures. Fishing dropped off to about 15,000 sturgeon by 1990 but climbed as the harvestable population built back up.

Reducing such boom and bust cycles is their goal, state managers say.

Potentially thorny negotiations between the commercial fishing fleet and the state to hammer out sturgeon fishing quotas for the next few years also commence this year.

Commercial fishermen were held to an 8,000-sturgeon ceiling in 1995 and again in 1996, a number many gillnetters argue is too low.

The gillnet fleet is allowed to catch sturgeon only while fishing for salmon. While gillnet salmon fishing on the main-stem Columbia all year in 1995, local commercial fishermen caught about 6,200 sturgeon.

Gillnetters were allocated 1,200 sturgeon during a 3-day February salmon season but caught only about 500 in muddy flood-churned waters.

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FROM THE SECRETARY

Commercial fishermen on the Columbia River have been placed in an unfair position. Their fishing seasons on the Columbia River in recent years has been cut back to near zero. They have been a group that has done all possible in their power to help build up salmon runs on the river and even giving up all harvest, which was getting the blame for a long time.

the things that needed to be done to improve the fish runs, for one reason or another, were just not being done, such as increase river flow during late spring and early summer when smolts are coming down river as nature would provide in early years. Then do something to control the increasing population of mammals on our river. the National Marine Fisheries Service is the agency that has the power to make sure these problems are improved, but they have been dragging their feet on doing so.

Commercial fishermen have been part of a study on mammals for the best part of fifteen years and we are worse off now than when it started, so bad that it's not safe to go down to the mooring basin where you tie your boat.

These are just some of the reasons why in 1994 the Columbia River fishery was declared a disaster area. Federal money was sent to the Northwest to help fishermen in their hard times. Oregon was to get \$5 million, \$2.7 million for habitat restoration and \$2.3 million for data collection jobs. Washington: \$7 million, \$350,000 for data collection jobs, \$1.5 million for habitat restoration and the other \$5 million for a salmon permit buyback program.

Oregon decided not to use any disaster money for buyback, although the program asked that a part should be used for that purpose. We have been working with the different fish agencies for years trying to make changes to improve fish runs. No improvement has been seen happening in fish runs up to now. Now the National Marine Fisheries Service is looking at listing more fish runs as endangered, so commercial fishermen on the Columbia have no choice but to make their #1 priority for 1996 to push for a voluntary buyback program.

—Jack Marincovich



This picture was taken August 15, 1935, at a dock in Fairbanks, Alaska shortly before Post and Rogers met their deaths while flying out of Nome, Alaska in their quest to fly around the world. Leonard Seppala was from Astoria, Oregon and he worked and fished in Alaska. He is standing to the left of Will Rogers. It is unknown who Joe Crosson was. This was one of the last pictures taken before they crashed in bad weather.

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Dear Don Riswick

I read about old friends in the paper who have crossed the bar and every one hurts, some more than others. It is difficult to express our sorrow or sympathy to those left behind.

I wrote this poem for all the fishermen, but especially for the families. And especially for Clarence and Hazel Demase.

A NEEDLE

A fisherman carves a needle, from wood of his own fibre. He shapes it with care and love, smoothing and polishing it for the web it is to weave. The web has many hazards and where the current takes it will ultimately decide how rough it will become.

Some web wears needles more, and why we'll never know. We patch and shape to try to smooth the tangle that the needle seems to make. Some needles last and last but others snag and catch the web at every turn.

Sometimes it is the needle and other times the web that will decide how long the needle lasts. We will never know which strand may stay or go. For God creates the web and chooses how and where the twine we clothe the needle with will hold or slip away.

The web of life and all its tangles are not for us to see until we cross that River and God reveals his plan for every needle was really His and you have helped him shape it to fit into that Plan.

Thanks for publishing the paper. A small check is enclosed. Hope it helps.

Ted Farnsworth, Vancouver WA

Spare sea lions and steelhead
To the Editor: If the Washington Department of Fish and Wildlife thinks the only way to save the dwindling steelhead population is to kill sea lions, its analysis is insufficiently global or imaginative.

The salient facts are: (1) the sea lions are taking advantage of steelhead herded by human dams and locks; (2) the disappearance of salmon is due largely to human overpopulation and consumption; and (3) humans possess a range of choice unavailable to sea lions who can't go vegetarian.

Instead of killing sea lions at the Ballard Locks Fish Ladder, better solutions would be: (1) build many more locks and/or artificial rivers; (2) encourage humans to give up eating steelhead, because they can and sea lions cannot; and (3) feed excess humans to sea lions.

David J. Loftus, Northwest Portland

Fishing Tradition

Oho! fellow fishermen; "WESTPORT DRIFT" fishermen will have two of their offspring as graduates of the United States Merchant Marine Academy. Heidi Gann, daughter of Butch & Marie Gann graduated from the Academy in the 80's. Heikki Laukkanen, son of Mark & Mirjami Laukkanen passed his Coast Guard Marine Engineering license in May and will graduate June 14th with a Bachelor degree in Marine Engineering.

neering.. The Academy is located on Long Island next to New York City. The family is planning on to attend graduation with the exception of brother Mikko; architect student at Tulane University who will be boat pulling in Bristol Bay.

Heikki has been accepted to begin Naval flight training in Florida.

Mark Laukkanen, Cathlamet WA.

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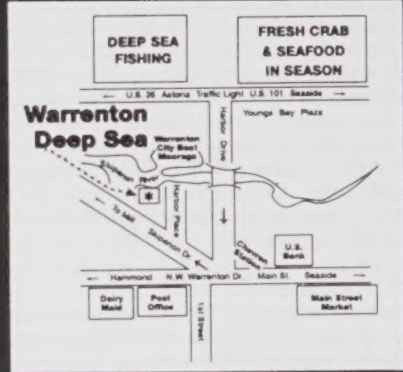
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SALMON COUNTS (From CEDC Newsletter)



SPRING CHINOOK

1995 was the fourth year for a spring chinook season in Youngs Bay. The seatabson opened May 1 for a 24-hour period and continued for five more 48-hour periods through June 7. Two hundred chinook were landed, and based on visual stock identification, 76% of the catch was lower river origin. Total assessment money received from the fishery was \$912. There were no fish landed in the '95 spring chinook sport season. 1995 was the first time in history that there was no commercial salmon or sturgeon gill-net fishery on the mainstem Columbia during the winter, spring or summer, making the Youngs Bay season the only game in town.

Projections for the '96 season, according to a Joint Columbia River Management Staff report, are for best ever landings based on expected good returns of 4-year-olds. The '96 season will be much the same as last year with 13 total fishing days (2 days/week) beginning April 29 and continuing through the first week in June.

FALL FISHERY

On the heels of an exciting 1994 fall season was a very disappointing fishery in 1995. Less than half the number of coho landed in '94 materialized for the '95 harvest. The season was vexed by a combination of low catches and bad prices, partly due to freezers full of wild and farmed coho from coastal waters off California, Oregon and Alaska. The price was at 70¢, compared to \$1 in '94. As of this printing, \$10,411 in assessment money resulted from a catch of 823 fall chinook and 22,389 coho. One bright note, despite the low catches, was an average weight of 8 pounds each for the coho.

TERMINAL FISHERIES

Proposed expansion of the terminal fishery concept initiated in 1994 with BPA funding finally occurred in 1995 with the first transfer of fish to three additional net-pen sites on the Columbia River: Blind Slough, Tongue Point and Deep River, WA. Releases of approxi-

mately 200,000 coho at each site occurred in May. The first fishery to harvest adults at Blind Slough and Tongue Point will be the fall of 1996. Other Columbia River sites being studied for suitability of rearing and release of salmon are Steamboat Slough, Cathlamet Channel, Clifton Channel and Wallace Slough.

Acknowledgement of the value of terminal fisheries continues to increase, and it appears to be one of the only consistent providers of fishing opportunities on the lower Columbia since drastic season curtailments these past two years. Specific rearing and release scenarios included in the terminal fishery program are: overwinter rearing and release of 925,000 Willamette stock spring chinook per year for '94 and '95 brood years (425,000 from Youngs Bay net pens; 50,000 from SFK Klaskanine pond; 250,000 from Tongue Point net pens; and 200,000 from Blind Slough net pens); 750,000 Rogue fall chinook per year for '94, '95 and '96 brood years (all from Youngs Bay net pens with various rearing regimes); 800,000 early stock lower Columbia River coho per year for '94, '95 and '96 brood years (200,000 from Tongue Point, 200,000 from Blind Slough, 200,000 from Youngs Bay, and 200,000 from Deep River, WA). As you can see, a healthy total of 2,475,000 fish released in terminal areas has a potential of substantial contribution to the harvest of strong anadromous salmonid stocks while providing the necessary protection of depressed stocks. A bonus benefit of the terminal fisheries program is the contribution of the data collection for invaluable research information on overwintering, effects on homing and straying, and various target release sizes and densities.

UPRIVER BRIGHT FALL CHINOOK

Disaster relief to fishermen came in different forms in 1995, one of which was the first upriver bright fall chinook (URB) program at CEDC facilities. The Pacific States Marine Fisheries Commission (PSMFC) funded the rearing and release of 200,000 URB chinook from the Youngs Bay net pens for two consecutive years. Criteria for the program was established to hire a qualifying salmon fisherman for a 3-month period for each of the

two years of the program. The first group of fish were received in June from Bonneville hatchery and released in mid-July from the net pens. The first year of adult harvest of these fish will be the 1997 fall fishery in Youngs Bay. In addition to funding the upriver bright program, PSMFC also approved funding for the 1996 releases of Rogue stock fall chinook, discussed in the next section. The disaster relief funding will provide a break for the Restoration & Enhancement program which has suffered recent cutbacks.

ROGUE FALL CHINOOK

1995 release of Rogue stock chinook was 1,267,545; the largest ever. Since the Rogue program's inception in 1991, which proposed the release of up to 900,000 Rogues from the Youngs Bay net pens, it has been plagued with a shortage of egg availability and funding cutbacks. Funded by the restoration and enhancement program initially, until severely curtailed commercial seasons caused funding shortages, various funding sources which saw the potential success of the program stepped in to fill the gap: BPA, Clatsop County, and in 1996, PSMFC. What is exciting is that the initial release goal was finally reached for the first time in 1995 and will be again in 1996. Because this year's funding will come from PSMFC, salmon fishermen will be hired for the program as part of the Federal disaster relief.

The PSMFC portion of the program funds the release of 800,000 brood year '95 fingerlings from the Youngs Bay net pens in August of '96. Additionally, BPA committed to three years of a study to evaluate the effects of various rearing regimes on survival, contribution to fisheries, and straying. This portion schedules a release of 750,000 additional rogues from the net pens. All Rogue eggs come from ODFW's Big Creek hatchery, which testifies to the success of this cooperative program between ODFW and CEDC facilities that first released 50,000 of the Rogue stock from Project facilities and 56,700 from Big Creek hatchery in 1983, to a projected release in 1996 of 1.5 million from the Project's Youngs Bay net pens, and 1 million from Big Creek Hatchery.

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Despite the multitude of studies on restoring salmon stocks, and all the reasons given why the stocks are so severely depleted, there is hope; not that the resource (fish and habitat) can be restored to historical levels--for we would have to return to those times in history before there were dams on the river and a limited number of user groups of the resource--but rather to "healthy" levels, with all user groups involved in the give and take that is unquestionably necessary for that to take place. The regional partnerships formed to pursue terminal fisheries development (Bonneville Power, Northwest Power Planning Council, National Marine Fisheries, Oregon and Washington Departments of Fish & Wildlife, and Clatsop County) are endeavoring to create a "big picture" where the health of the entire ecosystem can be maintained.

CEDC Fisheries maintains a staff of seven people and welcomed our newest addition to the Project in January, Daniel Dunn. With all of the added sites we continue to be stretched and challenged. It will be exciting to see the results of the first harvest of adults at the new pen sites at Blind Slough, Tongue Point and Deep River. Although local support remains high with the voluntary assessment program, we still look forward to the day when ongoing funding can be committed to this successful program. We celebrate our 20th year in 1996 of rearing fish for economic development. From our first release of 50,000 coho in 1977 to a combined total of 4,329,896 in 1995 of coho, Rogue fall chinook, spring chinook and upriver bright fall chinook, we believe much progress has been made and that there is still a future for the salmon industry.

STOCKS OF SPRING CHINOOK

INTRODUCTION: Spring chinook entering the lower Columbia River from mid-February to mid-March are predominantly large, 5-year-old fish from lower river tributaries. Five-year-old chinook are dominant throughout March, and reach peak abundance in the lower Columbia by late March. Smaller 4-year-old fish enter in increasing numbers after mid-March, reaching peak abundance during April.

Results of genetic stock identification (GSI) analysis and recovery of marked hatchery fish during past winter seasons and March Columbia sport fisheries indicated the majority of

the chinook caught were Willamette fish. Willamette fish are dominant because of earlier migration patterns and a greater abundance of early entering 5-year-old fish than are found in other spring chinook runs. Of the remaining chinook landed, most are destined for other lower river tributaries such as the Cowlitz, Kalama, Lewis, and Sandy, and the upper Columbia. Upriver chinook destined for above Bonneville Dam begin entering the Columbia in substantial numbers after mid-March and generally peak in the lower Columbia near mid-April.

WILLAMETTE RIVER RUN: Historically, wild spring chinook spawned in nearly all east side tributaries above Willamette Falls. From 1952-68 dams were completed by the US Army Corps of Engineers (USACE) on all the major east side tributaries above Willamette Falls, blocking over 400 stream miles that were originally the most important spawning and rearing areas for wild spring chinook. Some residual spawning area remains, including about two-thirds of the McKenzie River and about one-quarter of the North Santiam River. However, these areas are affected by upstream dams through alteration of flows and temperature.

Current runs are predominantly hatchery produced. Four large hatcheries above Willamette Falls currently produce up to 4.4 million smolts each year, plus additional fingerlings to seed reservoir and stream areas. About three-quarters of this hatchery production is funded by USACE as mitigation for the lost production areas. Below Willamette Falls hatchery releases on the Clackamas River total about 1.0 million smolts annually. Recent estimates place the percentage of wild fish in current Willamette spring chinook runs at 5-15%.

Accurate run size estimates prior to 1946 are not available. During 1946-89, it was generally believed the 1953 run was the largest on record at 125,000 fish. The 1953 run was predominantly wild. A new record run size was established in 1990, with a run of 130,600. The 1990 run was predominantly hatchery produced.

1995 Run: The 1995 Willamette run entering the Columbia was 42,600, the lowest return since 1975. The return was 87% of the pre-season forecast of 49,000. The 1995 return was 43% of the Willamette Fish Management Plan (WFMP) objective of 100,000, and the

fourth consecutive year below that objective. Willamette Falls escapement was 20,600.

CLACKAMAS RIVER RUN: The run entering the Clackamas River has increased from an annual average of 2,700 chinook in the 1970's, to 8,700 in the 1980's, to 9,900 in 1990-95. The run size increase is attributable to not only the new Clackamas Hatchery at McIver Park, but also to an increase in passage over North Fork Dam above Estacada and subsequent natural production. The dam count probably includes some hatchery fish. The dam count has increased from an annual average of 500 in the 1970's, to 2,600 in the 1980's, to 3,060 in 1990-95.

The return of spring chinook to the Clackamas River in 1995 totaled 6,600 fish. The North Fork Dam count totaled 1,660 spring chinook. The 1995 Clackamas return was below the objective of 12,400 average annual run size stated in the Clackamas Subbasin Fish Management Plan. The 1995 sport catch in the Clackamas River was 1,700 and the harvest rate was 26%.

SANDY RIVER RUN: The fish returning to the Sandy originate from transferred hatchery stocks produced in the Willamette system. The run has increased due to increased releases of hatchery smolts. The final estimate of the 1995 Sandy run size is currently not complete, but the preliminary estimate is 2,500 fish. The 1995 preseason forecast was 4,300 fish. The 1995 Marmot Dam count was 1,503 fish.

COWLITZ, KALAMA AND LEWIS RIVER RUNS: These runs are essentially supported by hatchery production and are closely related genetically. These fish migrate earlier than upriver stocks, with the majority passing through the lower Columbia River from mid-March to mid-May. In 1995 the three runs totaled 6,100 adults. This was down from the combined 1994 return of 7,400 and considerably below the recent 5-year average of 16,700.

Cowlitz River: The adult return to the Cowlitz River in 1995 was 2,100 adults. This was down from the 1994 return of 3,100 and below the recent 5-year average of 7,900. Hatchery escapement was 1,800 adults. The escapement goal of 1,700 adults was achieved. Natural spawning escapement was 280 adults. The 1995 sport catch was 50 adults with a 2% harvest rate.

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Kalama River: The adult return to the Kalama River in 1995 was 700. This was less than the recent 5-year average of 2,200. The hatchery escapement goal was achieved. Natural spawning escapement was 400 adults. The 1995 sport catch was 25 adults, with a 4% harvest rate.

Lewis River: In 1995 the adult return to the Lewis River was 3,300. This was slightly better than the 1994 return of 3,000, but well below the recent 5-year average of 6,600. The hatchery escapement of 1,000 adults exceeded the goal of 750. About 250 adults were provided to the tribes as part of the 10,000 fish minimum ceremonial and subsistence (C&S) entitlement and more than 400 were recycled into the sport fishery. The natural spawning escapement of 270 adults was 8% of the return. The 1995 sport catch was 2,000 adults, with a 61% harvest rate.

UPRIVER RUN: Upriver spring chinook begin entering the Columbia River in late February and early March, reaching peak abundance in April and early May in the lower river (below Bonneville Dam). All chinook passing Bonneville Dam from March through May are counted as upriver spring chinook. Upriver run size is calculated as the Bonneville count, plus the number of fish of upriver origin caught in lower river fisheries, February-May.

The upriver spring chinook run is comprised of stocks from three geographically separate production areas: the Columbia River system above the mouth of the Snake River, the Snake River system, and Columbia River tributaries between Bonneville Dam and the Snake River. In each of these areas, production is now a mix of hatchery and wild/natural fish. Although no estimates of hatchery contribution to upriver runs prior to 1977 are available, it can be assumed the runs were predominantly wild. Hatchery production in the 1960's and early 1970's was very limited in comparison to current production. Since the 1970's, spring chinook hatchery production in the upriver system has expanded to the point that in recent years about two-thirds of the run is hatchery produced. With considerable numbers of hatchery eggs, fry, smolts and adults being outplanted in recent years, it is likely that some of the current natural production is also an indirect hatchery product. In May 1992, the National Marine Fisheries Service (NMFS) listed Snake River wild spring/summer chinook as a threatened species under the ESA.

The Columbia River Fish Management Plan (CRFMP) includes interim management goals of 115,000 adult spring chinook at Bonneville Dam and 35,000 at Lower Granite Dam (of which 25,000 should be wild/natural fish). Since 1978, the Bonneville goal has been realized only once (1986) and the Lower Granite goal has not been achieved. The management goal, as measured at Bonneville Dam, based upon agreed-to aggregations of individual escapement goals as described in the subbasin plans has not been developed.

1995 Run: The preseason prediction for the 1995 upriver spring chinook run was 12,000. The actual run entering the Columbia was 10,200, the smallest return on record. The 1995 age class components were 6,900 4-year-olds, 2,900 5-year-olds, 200 6-year-olds, and an improved count of 2,500 jacks (including 200 large-size jacks counted as adults). The 1995 Snake River wild spring chinook run size was 1,841 fish, compared to the preseason prediction of 1,278 fish.

STAFF REPORT

1996 Youngs Bay Spring Chinook Fishery Recommendations

Preface: This report is prepared for the public, Oregon Fish and Wildlife (ODFW) staff, and the Oregon Fish and Wildlife Commission (OFWC).

Commercial Season

Dates: Noon April 29 (Mon) to 6pm April 30 (Tues) (1 day)

Noon May 6 (Mon) to 6pm May 8 (Wed) (2 days)

Noon May 13 (Mon) to 6pm May 15 (Wed) (2 days)

Noon May 20 (Mon) to 6pm May 22 (Wed) (2 days)

Noon May 27 (Mon) to 6pm May 29 (Wed) (2 days)

Noon June 3 (Mon) to 6pm June 7 (Fri) (4 days)

- A 1-day opener (April 29-30) will minimize chances of intercepting upriver spring chinook.

- The last 4-day fishing period (June 3-7) is designed to harvest in total the remaining local spring chinook during the time frame when upriver stocks are absent.

Gear: No mesh restriction (in effect since 1992)

Area: Open waters extend from the lower boundary, which is a line 150 feet above and parallel to the new Highway 101 bridge, to the upper boundary at a marker at Battle Creek Slough. Waters southerly of a line from Bouy 11 easterly and westerly to markers on the bank are closed (Lewis and Clark River sanctuary--slight modification from previous boundary).

Other: Only licensed wholesale fish dealers or fishermen with preauthorized permits(attachment)..... and following the conditions of the permit may possess or transport outside of the Youngs Bay fishing area any salmon taken during the Youngs Bay season when commercial taking of salmon in the main-stem Columbia River is closed.

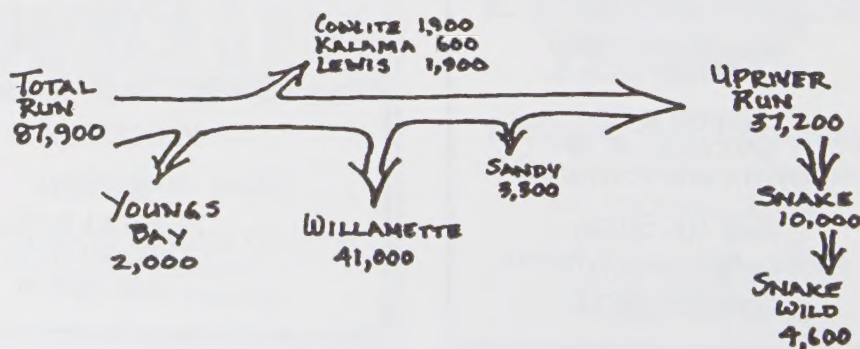
Since 1979, transportation of catch by fishermen out of the bay during the main-stem closed season has been prohibited. This recommended transportation rule was initiated during the 1995 fall season. A total of 17 permits were issued with three fishermen utilizing their permits in 1995. No problems were encountered with the permit system.

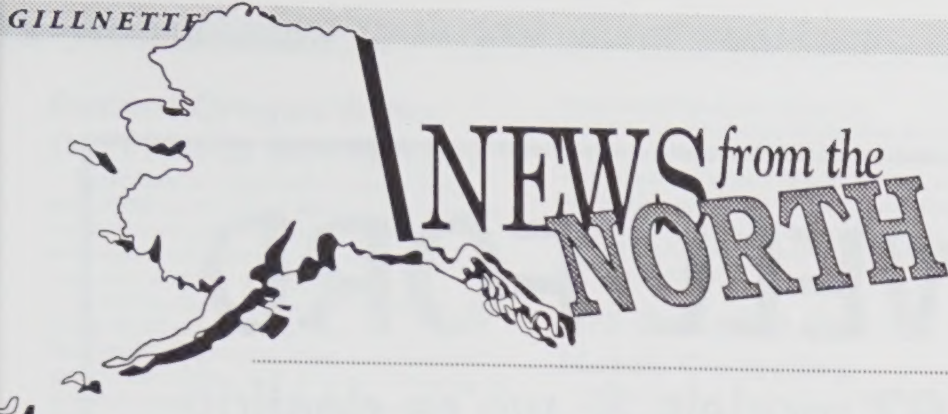
RELEASES OF WILLAMETTE STOCK SPRING CHINOOK INTO YOUNGS BAY

BROOD	FINGERLINGS	SMOLTS	TOTAL	YEAR OF RETURN	
				AGE 4	AGE 5
1988	263,300	54,300	317,600	1992	1993
1989	370,700	0	370,700	1993	1994
1990	330,500	31,700	362,200	1994	1995
1991	376,300	0	376,300	1995	1996
1992	0	411,300	411,300	1996	1997
1993	0	450,200	450,200	1997	1998

- Releases of smolts and fingerlings for 1988-91 broods were experimental in nature. Beginning with the 1992 brood, only full-term smolts were released.
- Future smolt releases of 475,000 annually for 1994 and 1995 broods are scheduled under the Terminal Fisheries Project funded by BPA.

PREDICTED 1996 SPRING CHINOOK RUN COMPONENTS ENTERING THE COLUMBIA RIVER





NEWS from the NORTH

The Copper River salmon run

By Helen Jung, Anchorage Daily News

Jun. 12--The Copper River salmon run may shape up to be the hugest ever, with commercial fishermen already netting the 1996 projected catch for that area in just half the season.

That flush of fish and higher-than-expected showings in other early salmon fisheries have softened Copper River prices; however, it's still unclear what effect the teeming Copper River run -- a tiny percentage of the statewide catch -- will have on the rest of the season, with the bulk of fishing yet to come.

By Tuesday afternoon, Copper River commercial fishermen already had scooped up close to the 1.2 million reds predicted for the year and may catch as many as 2.5 million reds by the end of the season, said Slim Morstad, a biologist for the Alaska Department of Fish and Game.

The fishermen are getting \$1.25 a pound for their fish, down from \$1.75 a pound on opening day a month ago, according to local processors. Last year at this time, fishermen were getting \$1.50 a pound, down from as much as \$3 a pound early in the season.

This year's Copper River harvest, a strong early chum run in Prince William Sound and initial red catches from Kodiak could plug some of the demand for fresh salmon, said Ken Roemhildt, superintendent of Cordova-based North Pacific Processors.

Still, it's difficult to predict this year's overall market for reds, the most valuable of Alaska's five salmon species. If those runs and others continue strong, the industry is going to have a lot more fish to sell -- at potentially lower prices -- than it thought, Roemhildt said.

Alaska's fishing industry has seen several years of slumping salmon prices for all its species, as huge production worldwide -- from foreign salmon farms, other wild salmon and Alaska's own large runs -- glutted the market. The situation had grown so critical that the state and the industry have been preparing for a crisis this summer if markets for salmon don't improve.

Although the industry has somewhat scaled back its gloom-and-doom forecasts for the red salmon market recently, there is still concern about how the summer will turn out.

The Copper River prices only roughly indicate what red salmon fishermen in Cook Inlet and in Bristol Bay -- the state's largest red fishery -- get for their catches, said fisheries economist Gunnar Knapp. The size of the catch statewide is the biggest factor in deciding prices, he said.

Still, everyone's watching the season unfold, hunting for any indicators of what's ahead for the industry, Knapp said.

Looking at the past few years, fish caught in Bristol Bay fetched fishermen opening prices of about \$1 a pound less than the Copper River's opening bids, he said. Cook Inlet reds tend to get initial prices of 40 cents to 50 cents higher than Bristol Bay's opening prices, Knapp said.

One of the less-tangible indicators is how wholesalers from Japan, the world's biggest salmon market, are responding. Initially, they aggressively bought up Copper River catches, Knapp said, showing that their supply has been depleted. But more recently, they and Lower 48 wholesalers have been less aggressive, holding back as they see the run come in higher than expected, said Roemhildt.

Even a record Copper River harvest shouldn't deflate Cook Inlet fishing once it starts up at the end of the month, said Theo Matthews, executive director of United Cook Inlet Drift Association. When you're talking about a projected statewide catch of more than 54 million reds, he said, an extra million from the Copper River shouldn't impact later fisheries too hard.

"Fishermen are like farmers. They're forever hopeful," he said.

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Eastern Oregon Water Deal Needs Re-Thinking

Bob Hale and his Inland Land Co. partners want to pump 50,000 acre feet of river water each year to farm the nearly 31 square miles of land in the dry reaches of Eastern Oregon near Boardman. The amount is almost as much water as Portland uses in a year.

In 1963 then-Governor Mark Hatfield brokered a deal to lease 93,000 acres of state land near the U. S. Navy's Boardman bombing range to Boeing. The 77-year lease gave the land to Boeing for \$2.00 an acre. Boeing also got nine water permits, allowing it to irrigate more than 63,000 acres.

When plans to build an aerospace facility were abandoned, a Boeing subsidiary, Boeing Agri-Industrial Corp., started subleasing the state land to farmers, along with the precious water rights.

At stake today is \$83 million a year in payroll and other benefits to the Hermiston area.

Also at stake could be the future of salmon, as well as burrowing owls, native hawks and Washington ground squirrels, whose rare shrub-steppe habitat would be damaged by farmland expansion.

State fish and wildlife officials have been forced to buy or lease other land in the area to protect those sensitive wildlife species.

"At a time when we are trying to increase stream flows to save Columbia River salmon and we are spending millions of dollars to do so, it's irresponsible for the state to let Inland's project proceed," said Karen Russell, assistant director of Water Watch. "This use may have been okay 20 years ago, but it doesn't make sense today."

Water Watch is one of five conservation groups urging the Oregon Water Resources Department to reverse a decision allowing Hale and his partners to proceed.

Since the permits were issued, a moratorium has stopped new irrigation withdrawals from the Columbia to protect salmon runs.

The state halted new groundwater permits in the Hermiston area because the aquifer is over-pumped.

A recent study showed the areas ground water was contaminated by farming, food processing, and livestock operations. Nitrate levels in the water were seven times greater than Federal standards for drinking water.

Sea Lions Turn up at Willamette Falls

One sea lion was spotted on April 1 at Willamette Falls. They may have them big brown eyes, but if not captured or disposed of, you just might have another Ballard Locks situation. These beasts are the scourge of the fishing industry. Ask any commercial gillnetter after picking up his net — all he found were heads and tails.

All the new methods, such as seal bombs and rubber bullets, have failed at Ballard locks in Seattle. There is only one solution that is lethal.

The Marine Mammal Protection Act, passed by Congress nearly a quarter century ago, prevents the wanton killing of sea lions and seals.

That law, however, has spurred a population explosion of pinnipeds and contributed to a decline in fish numbers.

A 1994 amendment to the protection act permits some killing of sea lions and seals to prevent "nuisance" animals from preying on dwindling salmon runs.

Sports anglers are finally getting the picture, something that gillnetters in the river have known for years.

Ten years ago, you seldom saw a sea lion off the docks of Astoria, but now they are permanent residents in front of the fish docks. They congregate in the mooring basin and actually sink some of the floats where you walk out to your boat.

Some of the larger sea lions can devour 20 - 30 pounds of fish each day. How many endangered Snake River fish do they eat? How many winter salmon do they eat?

Congress is the only one who can amend or make ex-

ceptions to the Endangered Species Act.

The sea lions here in the Columbia River are California sea lions and are not in any danger. It is the Stellar sea lion of Alaska that has gone downhill and needs protection. This fact should lead to something being done here. Apply the Act where necessary. The whole picture is ridiculous. Sport fishermen should do something because they have big numbers.

Fish Dumping Practice Needs Correcting

For any number of reasons, 751 million pounds of edible fish were tossed back into the ocean last year.

Among the seafood dumped by the fishing fleet in Federal waters off Alaska were 17 million pounds of halibut, 4 million pounds of herring, about 200,000 salmon, 360,000 king crabs, and 15 million tanner crabs, according to a report issued by the Alaska Department of Fish and Game.

The study said the discarded fish could have provided about 50 million meals.

Most of the dumping is blamed on large factory trawlers that process the fish at sea and around the Aleutian Islands.

The fish, dragged up by the ton in huge nets, are generally dead or dying when they are discarded. Fishing crews usually throw them away because they are the wrong size to process aboard ship or because they are after only female fish to harvest their eggs, a delicacy in Japan.

They're pulling up to 30 tons at a time, then they look at the fish and if it's the wrong species or not the right size, they'll just pull the pin on the net and drop them back in the water.

The study also found other species — pollock, cod, sole and other bottom fish. The wasted fish amounted to about 15% of the region's total bottom fish catch of 4.9 billion pounds.

State of Alaska officials plan to push for a plan to end this dumping and require offshore fishermen to keep

everything they catch.

"We cannot allow this kind of wanton waste to continue," said Governor Tony Knowles. "Federal fishery managers should require the offshore fleets to clean up their act."

Flood of 1996 Ruins Winter Gillnet Season

The compact set a season of from one to three days from February 18th at noon for 24 hours. After that, the harvest was to be analyzed to determine how many endangered Snake River salmon were caught. If the number was small, the harvest would be allowed to continue for another two days. The quota was to be 400 salmon and no more than 1,200 sturgeon. They also approved a catch of 12 Snake River salmon.

Officials predict this year's return of Spring chinook headed to the upper Columbia and its tributaries, including the Snake, will be three times larger than last year's run, which was the lowest on record. About 37,500 up-river Spring chinook are expected to return, compared to the 10,200 that returned last year.

The Columbia River Alliance, which is made up of power companies, dam operators and aluminum companies, headed by Bruce Lovelin, their mouthpiece, as usual criticized and propagandized our season even though the people he represents are the main reason for the decline in salmon.

Shortly after the compact meeting, the rains came and all the rivers went to flood stage.

About 50 fishermen were out between Astoria and Portland and tried to fish. It was almost impossible. Some ruined their nets, and some came home with piles of logs and trash.

The whole season amounted to 102 salmon and 543 sturgeon, mostly caught on opening day. The river was swift and like a mud puddle. About 20 ships were anchored off Astoria.

No fish in his right mind would enter a river under these conditions.

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Salmon For All News Brief

Permit Buyback

Washington continues to move ahead for a '96 buyback. Meetings to be held soon will determine how many permits will be bought, and in which fisheries. Watch for dates and times.

Of the \$7 million provided it for emergency assistance, Washington thus far is planning to use over \$5 million for buyback. Yet to be determined is whether the permit holder bid process will start over again, or if purchases will just start where the last one left off, at \$38,000 for gillnet permits. At least one insider says look for the State to require a second bid process since it appears to be to their benefit.

Oregon on the other hand has chosen not to pursue a '96 buyback with its \$5 million assistance funds. Oregon appears headed more toward jobs in stream restoration and data gathering. These programs in '95 have been viewed as successful. Salmon For All has supported the projects, but has also pointed out that only a handful of the +/- 115 jobs went to gillnet fishermen. Columbia River fishermen, working with Salmon For All, will need to find ways to expand these job opportunities if River folk are to see a significant part of the emergency funds. Call the office (325-3831) if you can help.

For further information, contact Frances Clark who has followed the process in Washington, and Jack Marincovich who has bird-dogged Oregon's efforts.

By the way, at the annual meeting in December, we reported that in order to get Oregon moving toward a buyback, all who hold Oregon permits should call, write or fax the Governor's office immediately. We're told there was virtually no response from the industry. If you contacted the Governor's office urging a buyback, please call Salmon For All so we can match industry response with Governor's office perception.

If you want to see an Oregon buyback in

the future, you should contact the Governor's office seeking that and perhaps ask why there has been so little support for buyback, a program that is in two salmon recovery plans. One, the Power Planning Council plan, has been endorsed by the State of Oregon.

Mitchell Act Funding

As you know, the Mitchell Act is the closest thing the non-tribal fleet has to a federal guarantee to exist. Even though the last four presidential budgets zeroed out Mitchell Act funding, Senator Hatfield was able to get it funded.

In the current political climate (read Republican House), there is less support for fully funding the Mitchell Act. Here is what we know.

The House bill calls for \$13.6 million with \$9 million for hatcheries and \$4.6 million for construction. There are no provisions for construction money to be diverted to hatcheries.

The joint Senate/House bill provides \$15 million with \$10.3 million for hatcheries and \$4.7 million for construction. In this bill, construction dollars could be used for hatcheries.

Until a budget is finally adopted there is no way of knowing just what will happen, but the cost to operate all Mitchell Act hatcheries at the same level as last year is about \$13 million. The states already anticipate closing six hatcheries based on a \$3.5 million shortfall. In addition, if the federal budget is not approved within the next couple of weeks, we're told we can expect to see some smolts released early.

Projections are that a 25% reduction in funding would reduce smolt production by 25%-65% depending on species. At press time, Oregon plans to drop most of its fall tule production, while Washington intends to cut some tule, some coho and some steelhead.

Those concerned should immediately call, write or fax your state's congressional delegates. Ask them to either fully fund the

Mitchell Act or, at least, adopt the joint Senate/House bill. You might also ask them if it's possible to use for hatcheries the +/- \$1.2 million that NMFS currently takes for administrative overhead. If you need help with phone numbers or addresses, please call the Salmon For All office, 325-3831.

Salmon For All Board Named

The 1996 Salmon For All Board of Directors have been named. If you have business to bring to Salmon for All, be sure to get in touch with one of your Board representatives. They can see that your ideas get on the agenda.

Board meetings are held monthly and are open to the membership. Call the office for details since times, dates and locations of Board meetings vary from month to month.

1996 Board Members are: Steve Fick, President**; Gerry Westerholm, VP, CRFPU**; Don Ivanoff, Secretary/Treasurer**; Doug Heater, Past President**; Frances Clark, NGA**; Steve Gray, NGA; Lance Gray, NGA*; Ken Wirkkala, NGA*; Ab Ihander, CRFPU; Jack Davis, CRFPU*; Stan Johnson, CRFPU*; Pierre Marchand, Processor; Mike Okoniewski, Processor; Dwight Eager, Processor*; Vacant, Processor*. (* alternate; ** Executive Committee)



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SFA Report

On April 1, Salmon for All mailed out the draft version of a Lower Columbia River Salmon Business Plan for Terminal Fisheries. The 100+ page document represents a full year's work.

The Plan was made possible by a grant from the Bonneville Power Administration which was following a recommendation of the Northwest Power Planning Council's Salmon Recovery Plan. That called for terminal fisheries to be expanded on the lower river as a way to lessen the ESA driven economic impacts of lost mainstem fishing opportunity.

The Salmon for All Board debated the need for such a plan. Some felt that supporting terminal fisheries would send the message that the industry was giving up on mainstem harvest. Others were concerned that moving to terminal areas provides less incentive for others, primarily hydro-operators, to do what is needed to recover mainstem salmon runs. While still others felt that policy makers, who were viewed as simply passing out crumbs of hope in terminal fisheries, would be patting themselves on the back and taking credit for doing "something for the fishermen and women".

Others, however, felt that terminal fisheries offer a supplement to mainstem harvest, a supplement that becomes more meaningful the worse things get on the mainstem.

Ultimately, the Board agreed to support the study with the following understandings:

1) Terminal fisheries are pursued only as a supplement to mainstem harvest. No one is giving up their right to mainstem harvest.

2) Terminal fisheries are an option that SFA's members can use or not use. Their existence provides an option the fishing family can consider when putting together their personal business plan. A major goal of the Board has been to pursue as many options as possible from which fishing families could pick and choose depending on their own needs and circumstances.

3) The Power Planning Council plan calls for terminal fishing development. If it is going to happen, it will be better if the industry takes the lead. After all, the more industry can be involved in production, the closer it comes to controlling its own future.

4) If terminal fisheries are to expand, the sooner the better. Funding was available for developing the Business Plan now so the Board felt it prudent to move swiftly.

The Board asked their Executive Director Bob Eaton to coordinate the project.

According to Eaton, the Business Plan attempts to provide a framework in which local, regional, state and national funding sources and policies can be brought together in a salmon production/harvest package that makes economic sense.

The plan looks at economic costs and returns from terminal fisheries expanded into seven locations along the river. In addition to the existing Young's Bay location, biologists have identified Tongue Point, Blind Slough, Clifton Channel and Wallace Slough on the Oregon side. In Washington, Grays River/Bay, Steamboat Slough and Cathlamet Channel were selected. In all, twenty-five sites were considered. Estimates are that these eight sites, when fully developed, could re-

lease 57 million smolts each year.

Dr. Hans Radtke, noted West Coast fisheries economist, provided the economic analysis. Based on 57 million releases, he estimates the economic return to be about (remember there are variables like ocean conditions that could impact returns) \$48 to \$53 million (including \$11 million sportfishing impact) to the lower River economy; \$109 million generated to all coastal and lower River economies; and \$140 million at the state level.

Eaton says the goal of the plan is maintain and bolster the economic and social infrastructure associated with salmon fishing along the lower Columbia River. Chances are great that the infrastructure once lost will never be regained. Eaton points out seven reasons he believes the Plan should and will be supported.

1) There is broad recognition that the lower River salmon industry needs immediate help.

2) Polls show that agencies and the public want salmon recovered to harvestable numbers. This implies that those who take salmon are to be the beneficiaries.

3) There is no overwhelming public in-

terest in unnecessarily closing down Columbia River fisheries.

4) Two federally backed salmon recovery plans call for development of terminal fisheries.

5) Both plans lead the lower River industry to believe it can co-exist with ESA constraints as long as it faces its future responsibly.

6) There will exist state and federal support for a plan that shows both short and long range benefits to regional economies.

7) Support will be given to a plan that demonstrates, using accepted economic indicators, that public financial participation is an investment rather than a subsidy.

The Plan looks at issues like who operates the program, who pays for the project, and how will harvest be accomplished and by whom. It also looks at the elements needed for successful product marketing, unique features of the fishery and its product, and location and geographic issues that support terminal fishing development.

Review comments received by April 15 will be included in the final draft which is due out about May 1.

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Gillnetters Oppose Deepening of the Columbia River Ship Channel

by Jon Westerholm

In the past few months, we have been hit with some strong publicity from the Portland area, promoting a deepening of the 120-mile long navigation channel from Astoria to Portland. The proposal, pushed by the Port of Portland, would increase the depth of the channel from 40 to 43 feet.

Quietly this proposal has been voiced around in the background for the past couple of years with a Corps of Engineers feasibility study starting in July, 1994. It got loud recently when a couple of Asian shipping companies, in a vessel-building frenzy, have threatened to cancel contracts in Portland. It seems that some of these behemoth ships are over 1,000 feet in length and draw over 40 feet of water when fully loaded. It doesn't take a math wizard to figure out what is going on here. The more grain, oil, logs, containers, etc. per ship, the greater the profit. Is bigger always better? In this case, we think not.

There are other options that would better serve the shipment of goods in and out of Columbia River ports without as much damage to fish, wildlife, and the environment that further dredging would do and still spread the future economy over a wider area and range of people.

We like the option put forth in two recent editorials in the Daily Astorian. Top loading those few large vessels at Astoria, with an increased use of river barging and railroad to the port docks as well as trucking, would eliminate the tremendous dredging expense of a deepened channel and keeping it that way for just a few ves-

sels.

We in the Commercial Fishing/Gillnetting business on the Columbia, as well as all salmon user groups, would do well to oppose any further disruption of the lower river estuary food chain that would occur with the agitation and removal of the river bottom. The dredging "spoils" are actually very "rich" in life in nature's scheme of things.

Most people are unaware of the physical changes brought about by the dredging of the channel. Unsightly dikes and bars of dredged sand cut off the natural flow of water to the back channels of the Columbia. Where these channels have supported fish migration and sheltered them from predators as well as provided food for the downstream migrants, summer flows may now be blocked by sand.

We made the mistake, in relation to our great salmon runs on the Columbia, of building too many large dams without knowing how much damage they were going to create. We still are not able to get the fingerlings safely down past the dams and into their ocean feeding grounds. Let's not make the same mistake with the lower river below the dams by drastically changing its structure without knowing the dangers that it could create. Ships will keep getting bigger. The river will not. How many years down the road will a 43-foot channel be inadequate and how much damage will have been done at that point? Just one major accident on the river with ships of any size would be a disaster in itself.

Fewer Fish Will be Barged in 1996

High water makes it virtually impossible to collect more than 1/2 the fish this year, and spilling the fish over the dams is unavoidable when there's so much water in the river. Mother nature has resolved the problem of barging at least for this year.

This pleases states, tribes, fishermen and environmental groups.

Left unresolved, however, is whether water will be taken from reservoirs in Idaho and Montana to help threatened Snake River fall chinook make it down stream later this summer when the Snake and Columbia Rivers are lower.

An attorney for environmentalist and fishermen groups suing the fisheries service says the reservoir issue likely will be resolved in court because the federal agency has delayed its decision until June.

This year, the number of fish headed towards the Pacific from the three runs will be the smallest ever. About 250,000 sockeye, spring-summer chinook and fall chinook are expected to begin their trek. More than 1 million started out last year.

In recent history, fewer than one in 100 fish have returned to spawn.

Death Threats Mar Sea Lion Hunt

(March 26, 1996)

What was to have been the first day of the hunt for 3 sea lions at Ballard Locks was halted because agency employees have received both written threats and messages left on their telephone voice mail in the past month.

Sea lions are a protected species, but the state received federal approval earlier this month to kill three of the more voracious of the marine mammals that threaten to wipe out the run of steelhead that pass the Ballard Locks to reach Lake Washington and their spawning streams.

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Notice to US Commercial Fishers on 1996 Marine Mammal Reporting and Registration Requirements

This is to advise you that under the Marine Mammal Protection Act amendments of 1994 (MMPA) the marine mammal regulations have changed and new reporting and registration requirements are now in effect.

Reporting Requirements: The 1996 requirements for reporting incidental marine mammal injuries and mortalities during commercial fishing operations have been simplified and standardized for all commercial fishers, regardless of gear type or target species. All fishers must now report any marine mammal injuries or mortalities, which occur incidental to fishing operations, within 48 hours of return from a trip in which an injury or mortality occurs. The National Marine Fisheries Service (NMFS) will distribute new, pre-addressed postage paid Marine Mammal Incidental Mortality/Injury Report forms soon.

Exemption holders are no longer required to keep daily logbooks on fishing effort and marine mammal interactions. Completed Logbooks from 1995 should be sent to the National Marine Fisheries Service.

Registration Requirements: Fishers participating in Category I or II fisheries are required to register with NMFS to obtain a Marine Mammal Authorization to lawfully take marine mammals incidental to fishing activities. In a cooperative effort, the Washington Department of Fish & Wildlife (WDFW) and the Oregon Department of Fish & Wildlife (ODFW), have agreed to assist NMFS in registering fishers for Category I or II fisheries licensed in Washington or Oregon.

Under this agreement, fishers will receive a 1996 Marine Mammal Authorization covering the licensed fishery along with their State fishing license or permit, at no additional charge. WDFW and ODFW will then transfer the necessary registration information, which is already being collected as part of the licensing process, to NMFS on behalf of the fisher.

The proposed Category I and II fisheries in Washington and Oregon are:
Washington Puget Sound Salmon Drift Gillnet (excluding Treaty Indian Fishing);
Oregon Developmental Swordfish Drift Gillnet
Oregon Developmental Swordfish/Blue Shark Floating Longline Fishery
The Authorization does not allow intentional lethal take of marine mammals for protection of gear or catch, which is illegal under the MMPA.



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Let Nature Take Her Course...

by Randy Henry

Government Agencies Work Cooperatively On Restoration

The "Flood of '96" can be characterized by its effect on northwest Oregon waterways.

Rivers and streams throughout the northwest look like messes needing to be cleaned up, but cleaning might be just the wrong thing to do.

While the February flooding did rearrange stream habitat, it also "recruited" important components of a healthy habitat into rivers. Fallen trees and boulders create a more diverse habitat important for fish.

While the flood was in progress, biologists raised an alert that "repairing" rivers could be damaging. Agencies cooperating to improve salmon habitat as part of the Governors Coastal Salmon Restoration Initiative quickly responded by explaining to their staffs what type of work their crews should and shouldn't do. Forestry and transportation agencies worked with department biologists to identify sensitive areas and explain to landowners concerns about in-stream work.

A list of "Do's and Don't's" has been compiled by the Coastal Salmon Restoration Initiative group to help landowners make informed decisions about repairs in rivers.

Record salmon runs returned in the decade after the 1964 flood. Biologists can only guess what will happen now, but they'll be working carefully and watching closely to see how rivers and fish respond to the Flood of '96.

To receive your copy of the "Fish Friendly" Flood Recovery flier call 1-503-872-5264.



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WAVES FROM THE PAST

Fisherman Repels 19 Sea Lions Invading Boat!

This Is No Fish Yarn; Tops All Fish Stories

Story About Editor's Uncle, Henry Jorgensen. By Dave James, Astoria, Ore., Sept. 2, 1948

No ordinary fish story will hold an audience in this gateway to the Columbia river. So many factual shoppers have been tossed around on the docks since John Jacob Astor nailed his name to history here in 1811 that only a genuine gasp-getting blood curdler will keep listeners from drifting off looking disgusted.

So it means something when Henry Jorgensen, 57 year old Norwegian salmon troller, widely known among Scandinavians of the Pacific Northwest, can literally stop war production any time he pauses to tell about his one-man fight with 19 giant lions at sea a few weeks ago. Trollers have always seen Steller's sea lions, named after a naturalist who sailed with the Russian explorer, Bering, in a North Pacific voyage ages ago, but veteran fishermen declare there's nothing on record comparable with Jorgensen's combat with the normally man-shy ocean beasts.

Daniel of the Bible at least had dry footing the time he went into the lion's den but tanned Henry Jorgensen, whose eyes of washed blue have scanned the seas ever since he first went halibut fishing with his father out of northern Norway at the age of 10, had to skid around on the cramped, slimy deck of his 332 foot troller, Beulha, armed only with a pike pole during a midnight encounter with sea lions who tried to steal 500 pounds of prized Chinook salmon off the boat.

Vicious Fighters

Jorgensen encountered this pack while anchored about 10 miles off shore from

Henry Jorgensen of Astoria, Oregon, married my Aunt Selma Riswick and was a day troller out of the Columbia River along with his brother, Martin Jorgensen who also trolled. Both of these Jorgensens' 34-ft boats were built by my grandfather, John Riswick in the boat shop in East Astoria.

My grandfather also built over 400 Alaska 32-ft sailboats for Libby & McNeil for use in Bristol Bay Alaska Gillnet Fleet. They were build out of Port Orford Cedar and had a keel made out of Bagyak (an African hard wood).

When I was eleven years old, I went trolling for one week with my Uncle Henry out in the ocean off the mouth of the Columbia River.

Henry died out in the ocean at age 72. He had a stroke and never regained consciousness.

They found his boat going around in circles.
Don Riswick



Sea Lion Poker

Henry Jorgensen, veteran Astoria salmon troller, exhibits the home-made pike pole he wielded in an encounter with sea lions unpaaleled in west coast fishing annals

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Long Beach, Wash., but Steller's sea lions, the world's largest, are to be found all the way from California to the Bering sea. Males run as long as 12 feet, stand 6 to 7 feet high and weigh a ton or more, while the cows range from 8 to 9 feet long and weigh about 500. Steller's is distinguished from the better known California sea lion (these are the "seals" that play tin horns in the circus acts) by its far greater size, its hoarse voice, a bull-like neck and the long coarse neck hair which gives the males a lion-like mane. The Stellers have no tusks such as the walrus but boast within their jaws an array of teeth that could devour a band saw. Bull fights on the breeding grounds are among the most savage waged by any mammal. Old males run around with necks scarred up like chopping blocks. There's no doubt about it, a sea lion in a bad mood would make the monstrous Frankenstein shriek like Little Bo Peep.

Jorgensen admits he felt like shrieking, and maybe he did, when he got up in the middle of the night and poked his nose out of his cabin right into the bleary, blowing old features of a sea lion standing on deck, waving its flippers like a fussy giant.

"It had been a better day for fishing than I'd counted on when I pulled out of Astoria," he related in the irresistible Scandinavian undulations which pick up each sentence at the end and hang it like [sic] a Christmas stocking. "I'd hooked better than 50 fish but was without ice, having figured on returning home by early afternoon, and now it was dusk. I decided to clean the fish and leave them on deck covered with sacks through that night and to pull home next morning.

"I dropped anchor in 30 fathoms and Matt Olson in the "Kurt" anchored about 500 feet away to keep me company and a big drag boat - I forget the name - put up for the night within a thousand feet. I went below to what serves as my galley, engine room and sleeping quarters, cooked and ate supper, washed the pots and oiled the engine. Outside the sea was flat as a board. I remember thinking 'it'll be tough sleeping tonight without a little rockin'. At 1 a. m. I was pitched half out of my bunk by the wildest shaking and roaring.

"Nothing Like This"

"Not knowing what kind of storm had come up, I stepped out of the bunk into a pair of hip boots and went up to look around. The boat was twisting and rolling and from all directions came noises that had no business being there. I've fished these parts for 30 years without ever hearing anything like it."

Here Jorgensen had stepped out on deck to find himself confronted by a sea lion. A bald headed Norwegian in underwear and hip boots vs. a monster. Jorgensen admits he felt like dissolving on the spot but the lion's reactions at the sight of

Sea Lion Perch

Nineteen sea lions tried boarding this trim 32-foot troller, built and operated by Henry Jorgensen.



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the fisherman will never be known.

"I started to cuss but realized right off that talking wasn't going to get rid of this customer, who had come to collect a commission on my fish. I dashed out through the door and grabbed a 10 foot pole to whack my visitor," Jorgensen said, excitedly.

At this point the fisherman, who weights 180 and is hard as a bone, would have thought twice before running out to battle the sea lion if he had known two others were hanging on the bow rails by their front flippers, waving their noses in happy speculation over fresh salmon.

"It was in the middle of the night but so light I could see other lions, at least 15, bobbing around my boat and the nearby fish boats were visible. I stepped toward the lion on the hatch and let him have it right on the skull with my pike. He gave a great 'oof!' and scampered to portside, causing a sharp list. A jab right in the pants sent him overboard, roaring and thrashing his flippers. Then I turned and found myself standing between the salmon and two more lions, advancing around the pilot house, standing like men and flipping their arms.

"I was getting mad and scared. Overboard were a mob of lions bobbing around just out of poking reach but close enough to leap aboard. I risked falling on the slippery deck, covered with fish slime, but went ahead anyway toward the newcomers and swatted both of them. They weren't in a fighting mood but roared plenty and showed teeth as big as my thumbs. They backed away and I poked them both overboard."

The lions now brought up reinforcements. They had passed word around that if enough got aboard the boat they could tip it and the fish would slip off into the water to be gobbled up like crackers in soup. The lions moved in. Jorgensen yelled for help.

"I yelled like blue murder but do you think that snoring Matt Olson, cozy in his bunk down below the water line, would give me an ear? No sir! I bellowed so loud they must have heard me on shore. I yelled to the drag boat which had four or five men aboard. They kept right on sleeping."

Jorgensen's shouting didn't impress the lions. They pressed in to climb aboard.

Snares King of Herd

"I'll tell you how a sea lion gets on a boat," the fisherman continued. "First it bobs up and catches its chin on the rail. Then its front flippers come over to secure a grip and the body follows with a swift movement like something squirting out of a hole.

"Three hung on the portside and I stepped over, jabbing and slugging, bringing the pole down on their skulls like an ax. My arms ached and I couldn't get my breath. I'm 57, remember. After

those three fell off, four others rushed to the starboard and scrambled over, roaring and flashing their teeth. I rammed the sharp point of the pike into the nearest lion. He screamed and flopped overboard. Two others jumped without being poked but the fourth was mean. I threw a bucket at him and missed, losing the bucket. I got in a kick at him and slipped, falling flat on my back. I thought here goes Henry Jorgensen! That fall must have scared him. He jumped back into the water."

Breathing heavily, Jorgensen lay where he fell, sore, weary, fast losing hope of saving his fish. He crawled into his pilot house to think things over. He made up his mind to hoist anchor and pull away before the lions could kill him. But hoisting anchor meant going out on deck and before he could start, the boat gave a violent lurch which dropped the fisherman flat on his underpants.

"What now? I thought," exclaimed Jorgensen. "Here was my boat in a calm sea suddenly going around crazy. I wiggled out of the pilot house toward the bow and there, tangled in the anchor line and roaring like a bull was the king of the herd. Its flippers had snagged for some reason and the old king was pulling my boat around in circles.

Boss Lion Repelled

"Every herd of sea lions has a king and this was the guy. He shook loose about the

time I was ready to cut the line and then I was in for it. With a great leap he landed on the starboard bow and lumbered on toward the fish, snarling, 'oof! oof! oof!' I yelled at him. I smashed down on his head with a blow that split the pike pole and must have softened his round dome. Then I let him have the pike right in the belly and over he went, screaming like I've never heard."

By this time Jorgensen was all in. He had so little strength left another attack by the lions would have taken his fish, but for some reason the sea visitors departed. Perhaps they were tired or fed up with being probed by a pike. As he sank wearily on the hatch cover, Jorgensen counted 19 bald heads swimming away into the darkness.

"When I looked at my watch it was 2:15," he said. "I'd been fighting for an hour and 15 minutes. I crawled down to my bunks and fell in, but not to sleep. I didn't sleep again until after I reached port next morning and unloaded those fish. The catch netted me \$164.50. It was the hardest money I ever earned."

Jorgensen came to this country in 1905 and has lived around Astoria since 1907. In 47 years of fishing, as boy and man, he's had many exciting moments, including the time a 30 foot whale stopped under his small boat to patiently scrape barnacles off its back, but nothing in his experience equals the night he fought the sea lions.

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New Net Pen Sites to be Considered

Seven new release sites plus expanding the Youngs Bay release site are included in the expansion plan. The various species or stocks of fish culture regimes considered in the expansion project are: lower Columbia River early coho (*Oncorhynchus kisutch*), Willamette spring chinook, Rogue River fall chinook, and upper Columbia River bright fall chinook (*Oncorhynchus tshawytscha*). These species or stocks were considered as the most viable for meeting project goals.

The seven new sites were winnowed from an original list of 25 candidate sites. Using rearing and harvest criteria, the final new sites to be considered in the expansion plans are:

Tongue Point (Oregon)
Blind Slough (Oregon)
Deep River/Grays Bay (Washington)
Clifton Channel (Oregon)
Steamboat Slough/Skamokawa Creek (Washington)
Wallace Slough (Oregon)
Cathlamet Channel (Washington)

The existing Youngs Bay (Oregon) site would also be considered for additional production.

The financing plan reviews the start-up costs for adding the new sites to the CEDCFP and the annual operating costs for husbandry, transporting, acclimating, and releasing the fish. Sources of revenue to cover capital and operating costs are under discussion.

Julian Hill, Discoverer of Nylon, Dies at 91

Julian Hill was a research chemist working with a team of DuPont researchers, when he pursued an accidental discovery, which turned into a miracle material.

Nylon netting for gillnets revolutionized the fishing industry making linen nets obsolete.

The chemists were engaged in pure research, though finding a substitute for silk was in the back of their minds.

Since DuPont held the patents on nylon, Hill made no great fortune off the discovery, but his wife said the company had treated him well over the years.

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1995 Troller Fish Catch at Newport, Oregon Best Since 1990

The bite was so hot around Newport that the 1995 commercial chinook landings there set a record - 1,330,000 pounds. Preliminary figures show the catch at 1,945,000 pounds, nearly seven times last year's catch.

The figures have Don Bodenmiller, ODFW Ocean Salmon Management Specialist, scratching his head over why chinook are coming back while coho populations remain so depressed that the National Marine Fisheries Service has proposed they be listed as "threatened" under the Endangered Species Act.

Chinook stocks from the Sacramento, Klamath, and Rogue Rivers in Northern California and Southern Oregon, which produce most of the chinook caught off the Oregon Coast, have done much better than expected.

The unexpected bonanza resulted in \$3,295,000 payouts to commercial salmon trollers. It might have been even higher, but the market was down because of a world-wide glut of salmon. The aver-

age price was only \$1.70 per pound, down from \$2.40 a year ago.

Oregon Crab Season Close to Record

Between the December opening and April 1, 1996, 15.7 million pounds of Dungeness crab have been landed in Oregon.

The all-time record is 18.2 million pounds set in 1980. The two seasonal highest landings were in 1977 and 1979, with 16.3 million pounds each. Last season, crabbers landed 15.1 million pounds. The long term average is 9.3 million pounds.

Traditionally, crab fishing starts December 1. This year, the opener was delayed due to soft crab shells with low meat content. There was a lot of frozen crab on hand which kept the buyers' price down.

Lack of a set price kept Astoria boats in port until January 3, when fishing resumed all along the Oregon coast.

The price of crab has climbed from \$1.15 per pound to \$1.40 by the end of March. The season ends August 14.

In most season, 60% - 75% of the catch is landed by the first of February.

British Columbia Museum Discovers Saber-Toothed Salmon

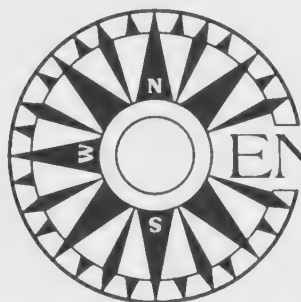
Mike Trask, director of science at the Courtenay Museum, 110 miles northwest of Victoria, Canada, has hauled in a 130-pound saber-toothed salmon. The fossil hunter had come upon an 80 million year old enchodus.

"We were finding bits and pieces for the last few years, but at first we didn't know what it was," Trask said.

"It is not much different from our present salmon," he said. "The teeth were spectacular, with a large hook to them. Scientifically, it is predecessor to today's salmon."

Rocks and Fossils: Bones of the Earth showed everything from Courtenay's monster salmon to the tusks of a woolly mammoth and a 17,000 year old bison skull found in a suburban pound.

Using the remains of the salmon, Trask figured the head alone was 12 inches long. The tooth was probably used for protection, as well as for piercing shells for food.



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British Columbia Acts to Conserve Salmon Runs

Canada has announced plans to cut British Columbia's commercial salmon fleet in half.

Fisheries Minister Fred Mifflin said fish come first. Reduction of the 4,400-boat fleet will start this year with a voluntary program to phase out commercial fishing licenses. His ministry has budgeted \$5.8 million to pay fishermen who participate.

Mifflin said training programs would be started for displaced fisheries workers.

Preliminary estimates suggest that last year's commercial salmon catch was down 40% from the \$150 million annual average between 1991 and 1994.

Unless the current forecast proves wrong, the government may order the crucial Fraser River fishery closed this year. The Pacific Salmon Commission has estimated that as few as 1.4 million sockeye salmon are expected to return to the Fraser river this year, the second straight year of poor returns.

Experts are at a loss to explain the big decrease in the red salmon runs. There is one theory that they continue to become prey to mackerel.

This is the second major federal program responding to dwindling fish stocks. In 1994, the Canadian govern-

ment allocated \$1.4 billion to revamp the dying East Coast cod fishery, cutting the number of full-time fishermen in half to 13,000.

50 Million Young Coho to Get Fin Clipping

This is the start of a long-discussed shift in Northwest fish management.

When the fish return to spawn as adults in 1998, angling regulations in many waters will permit only the harvest of the fin clipped, hatchery-origin coho. Any unmarked coho caught will have to be released.

Marking 50 million coho doesn't come cheaply. Washington has bought 13 special marking trailers at a cost of \$60,000 each. Oregon is buying three trailers.

The adipose clip has been used as a way to mark salmon containing a tiny coded wire tag in its mouth. The tags are examined to learn biological information.

Since millions of coho will have a missing adipose fin, the states have to buy special electronic equipment to detect the wire tags. That adds \$657,000 for Washington and \$389,000 for Oregon.

Marking and sampling also will cost the states more than \$1.3 million.

Salmon Poaching Made Easier

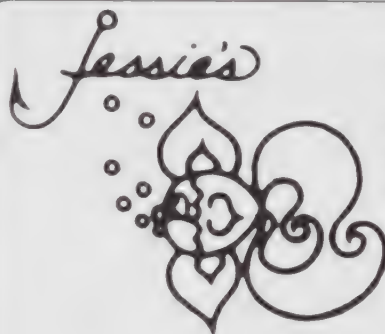
In its effort to make California more "business friendly," the California Fish & Game Commission adopted regulations in December, proposed by the Department of Fish & Game, making it easier to illicitly trade in sport-caught salmon. The salmon have a portion of their tail removed after being taken. The tail-marking requirement made the fish readily identifiable as sport-caught, to help prevent them from getting into commercial markets. The recent trend of reducing both wardens and biologists in the field, to gain additional "exempt" positions for the Department in Sacramento, has opened the door for persons fishing under a sport license to thwart the two-salmon-per-day bag limit by simply making numerous trips per day, or just ignoring the bag limit altogether since there were few wardens in sight. Most of the trade in the sport-caught fish has come from privately owned vessels and not from the charter boat fleet. The elimination of the tail marking requirement eases the "regulatory burden" on the poachers, as well as the restaurants and markets that illegally buy sport-caught fish.

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Journey of the Kings

To watch Columbia River salmon and steelhead charge up the river against powerful currents is to understand why the largest of these, the chinook, are known as the "kings." They are regal. Faced with barriers many times taller than they are long, they launch their full weight skyward, undaunted. They are determined to reach their natal waters where they will reproduce and die.

For thousands of years salmon have used the Columbia and its tributaries to travel from their upriver birthing streams to the sea and back.

But in the past century, this route has been blocked by enormous concrete barriers — the Northwest's huge hydroelectric dams.

The river truly is "power-full," and this power has been turned to society's purpose with 19 major and dozens of small hydropower dams. The dams provide more than two-thirds of the region's electricity, but they have killed as many as three-quarters of the river's salmon.

A century ago, more than 10 million salmon and steelhead returned from the ocean each year to spawn in Northwest rivers. Some say the figure may have been as high as 16 million. Today, the number of fish returning is less than 3 million.

In 1980, in the midst of designing federal legislation that would enable the Pacific Northwest to manage its hydropower resource through a public planning process, the question of how to salvage the last of the river's salmon surfaced. The resulting federal law (96-501), the Pacific Northwest Electric Power Planning and Conservation Act, carried three mandates:

Develop a program to protect, mitigate and enhance the Columbia Basin's fish and wildlife that were affected by hydroelectric dams;

Develop a regional electric energy plan that provides a reliable electricity supply at the lowest cost; and

Involve and inform electricity consumers in the region in these processes.

These actions, Congress ruled, would be paid for by the region's electricity ratepayers, longtime beneficiaries of the federally financed hydropower system that had given them the lowest electric rates in the nation. Long-range power planning; involving the public in decision-making; and protecting the Northwest's salmon now are included in the costs of pulling power from the Columbia.

In response to passage of the Act, the four Northwest state legislatures (Idaho, Montana, Oregon and Washington) voted

to form the Northwest Power Planning Council to carry out these mandates. Council members are appointed, two from each state, by the four state governors.

Less than two years after the Council formed, it adopted its first Columbia River Basin Fish and Wildlife Program. The program took the region's first system-wide look at the plight of the Columbia's salmon. It addresses hazards the fish must overcome from the moment they hatch till the last hours of their lives. While other fish, as well as wildlife, are important parts of the program, the primary focus is on salmon and steelhead because of their economic importance to the region and the devastating losses they have suffered.

Young salmon and steelhead, born naturally in freshwater streams, stay in their upriver habitat for several months to more than a year before moving out toward the sea with the spring thaw. In their native waters, they are vulnerable to changes in water temperatures and quality. In some areas of the Columbia Basin, creeks where salmon have deposited their eggs dry up before the salmon hatch. Cattle and other creatures (including people) may trample shoreline vegetation that provides protection and food for salmon.

Habitat repairs called for in the program include planting trees along the water's edge to shade and cool streams, as well as fencing off some areas so vegetation that is essential to a healthy stream environment can grow back. Thousands of miles of upstream habitat have been opened and improved for salmon and steelhead.

Only about a quarter of the Columbia's salmon spawn in the wild. The rest are reproduced in hatcheries. While survival rates from egg to smolt (the stage at which most young fish are released into streams) are generally higher in hatcheries than in the wild, diseases and other hatch-

ery failures can threaten whole salmon populations.

The fish and wildlife program does call for a few new hatcheries, but more importantly, the program calls for new approaches to hatchery production. For example, regional fisheries managers are testing an approach known as "supplementation" to see whether hatchery-reared fish can help rebuild naturally spawning runs in native habitat.

Instead of being released directly into the Columbia from hatchery raceways, under supplementation, some young salmon will be delivered to healthy streams. The hope is that they will survive and return to those streams as adults when they are ready to reproduce.

The Council included in its program a major effort to safeguard salmon as they migrate between and past the Columbia's big dams. This is the most difficult and most costly piece of the salmon protection picture.

The two most significant problems affecting fish traveling downstream are the speed of their migration and the mechanics of passing them around the dams rather than through the turbines.

As they migrate out to sea, young salmon are undergoing a physiological transformation that prepares them to move from freshwater to a saltwater environment. Nature timed this makeover to coincide with the spring snow melt, which carried smolts to the sea. But the dams hold back and slow down much of the water. This stalls the young fish in huge reservoirs. The result can be disastrous for the fish who must quickly reach saltwater to survive.

The Council's program calls for a release of stored water and natural runoff when the juveniles are heading downriver. This release, called the "water budget," cuts travel time for the fish and



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increases their odds of survival.

A second problem is the dams themselves. Turbines kill about 15 percent of all fish that move through them. If 100 fish were to go through turbines at each of the nine dams on the Columbia River, only 23 would survive.

The best solution appears to be mechanical. Bypass screens located near the entrance to turbines divert a portion of the fish out of harm's way. The screens move the salmon into channels cut through the dams to carry the fish to safety. But these systems are expensive, and they take a great deal of time to install.

Until permanent screens and bypass channels are in place and operating effectively, regional fisheries managers and dam operators have agreed to spill water at the dams to carry the juveniles over rather than through the dams. Even this journey can be dangerous, but fewer fish are killed going this route than through the turbines. Spilling water is not a satisfactory long-term solution because water that is spilled cannot generate electricity.

In low-water years, the U.S. Army Corps of Engineers collects millions of salmon and steelhead at upriver dams, loads them into barges and trucks, and transports them downriver to be released below Bonneville Dam. Unfortunately, some species, such as spring chinook, do not fare well in barges.

Once in the ocean, salmon are the focus of an intense commercial and sport harvest, which, without careful regulation, could reverse the gains made within the river basin.

Scarce wild stocks swim alongside more plentiful hatchery fish in the vast ocean migrations, and it is difficult for fishers to distinguish among them and harvest only hatchery fish. To preserve remnants of damaged runs, limits are set on the taking of all salmon. Harvests are cut off when regulators believe that any further fishing will eliminate too many returning fish.

When salmon mature, they turn back toward the mouth of the Columbia.

Dams still block the salmon's way, but fish ladders on all but the furthest upriver dams make the climb possible, if still difficult. Research to improve these ladders is an ongoing part of the Council's program.

At hatcheries, some fish are trapped, their eggs are taken and fertilized, and their young are hatched and reared. Others continue beyond the hatcheries, finally finding the streams of their origin. Here the journey of the kings ends – and begins again. Each mating pair produces thousands of eggs, and each spring the offspring of thousands of pairs come out of the mountains, merge in the Columbia and begin again the long journey of their ancestors.

A Fish and Wildlife Glossary

anadromous fish – Fish, such as salmon or steelhead trout, that hatch in freshwater and migrate to saltwater to mature before returning to spawn in freshwater. Fish that do not migrate to the ocean are called resident fish.

bypass system, bypass channel – A structure in a dam that provides a route for fish to move through or around the dam without going through the turbine units. The bypass channel is the part of a system that includes a conduit build into the dam to pass fish.

escapement – The number of salmon and steelhead that return to a specified place. Spawning escapement consists of those fish that survive to spawn. **spawning nest** – A spawning nest made in the gravel bed of a river by salmon or steelhead.

resident fish – Fish that spend their entire life cycle in freshwater. For the Council's fish and wildlife program purposes, resident fish include landlocked anadromous fish (e.g., white sturgeon, kokanee and coho), as well as traditionally defined resident fish species.

continues on page 35



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Columbia River Colossus

The White Sturgeon

by Jim Galbreath, Fishery Biologist, Anadromous Fish Section

The sturgeon is the largest freshwater fish in the world and the subject of many stories among fishermen. Also, probably more misinformation has been circulated and published concerning this behemoth of our rivers than any other fish. Its size and appearance dazzle the imagination and its flesh, cooked or smoked, is preferred by many over salmon. Sturgeon roe or caviar, of course, demands a gourmet price. In times past the notochord was used for soup and its swim bladder was used in manufacturing isinglass.

Description

There are twenty-three species or subspecies of the Sturgeon family (Acipenseridae) that occur in Asia, northern Europe and North America. On the Pacific Coast we have two species, the white or Columbia River sturgeon, *Acipenser transmontanus*, and the green sturgeon, *A. medirostris* which range from central California to northwestern Alaska.

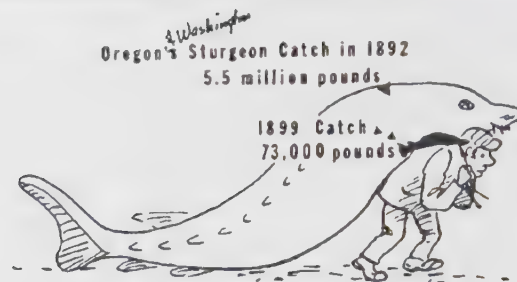
The green sturgeon spends most of its time in a marine or brackish water environment and is considered by most to be an inferior food fish and is of little commercial importance. This article primarily concerns the white sturgeon that is by definition an anadromous fish (goes from ocean to fresh water to spawn) although some never go to the ocean.

This prehistoric fish originated in the upper Cretaceous period in the Mesozoic Era from 1-2 million years ago. Like sharks, they have remained relatively unchanged to the present. In this respect, we must consider them a very efficient organism. The body is long and cylindrical and bears 5 widely separated rows of

pointed, bony shields called scutes. Scutes are recurved and extremely sharp on young fish, becoming worn and smooth in older fish. The head is covered with bony plates joined by sutures, the mouth is on the underside like a shark's only toothless, and is protrusible like a vacuum cleaner hose. The snout is flattened and below it are 4 sensory barbels or whiskers used to detect food. The skeleton is cartilaginous except for membrane bones of the skull, jaw and pectoral girdle, and has no spinal vertebrae (instead it has a rod-like notochord). The back is grey, pale olive, or grey-brown; the underside a pale grey to white.

The largest white sturgeon officially recorded in the Northwest came from the Fraser River, B.C. weighing 1,800 pounds. A close second was the estimated 1,500 pound behemoth caught in the Snake River in 1928. Number three was a tie between the 1,285 pounder taken in Astoria and one 1,287 pound fish caught near Vancouver, Washington. Tales abound of huge sturgeon as long as commercial fishing boats (26 ft.), but these always got away! Several fish in the 900-1,000 pound category have been taken through the years, but must now be considered rare.

One of the largest taken recently was by a bank angler immediately below Bonneville Dam. It took 4 1/2 hours to land and was 10 1/2 feet in length (est. 500-600 lbs.). It now resides in the sturgeon pool at Bonneville Hatchery. Russia has recorded the largest sturgeon *Huso huso* at 3,221 pounds, with some reports of fish up to 3,500 pounds. Green sturgeon do not attain a size much greater than 350 pounds (97 ft.).



Early day exploitation caused sturgeon declines in many parts of the world.

History of Exploitation

Sturgeon were dominant when white man first arrived on the Columbia River. In some places they were so numerous they caused considerable damage to salmon gillnets. For years sturgeon were deliberately killed in attempts to eradicate them. Sturgeon were caught in all major types of salmon gear including gillnets, seines, fish wheels and traps, as well as Chinese gang lines and set lines. Sturgeon found limited use as food by early white settlers.

About 1800 a commercial fishery commenced and in 1888, a rail shipment of 94 tons of frozen sturgeon to the East marked the beginning of an important industry. Quick acceptance of smoked sturgeon and caviar stimulated rapid development of the fishery. By 1892, a peak production of 5.5 million pounds was reached. Despite heavy fishing effort in the next seven years, landings fell to 73,000 pounds and the fishery became an incidental one. Depletion was rapid because sturgeon were slow-growing and as large fish were taken, the average weight soon dropped from 150 pounds to 40 pounds.

Wherever commercially exploited sturgeon have been studied, there has been a history of great depletion, or virtual extinction. Because of their economic importance, their penchant for damaging nets, and man's ignorance of sturgeon biology, irrational utilization was seen worldwide. Pollution and dam construction further depressed stocks until emergency measures were needed to build up populations. Pollution clean-up, size regulations, complete fishing closures, and artificial culture (Russia) were instigated. Russia was so desperate for caviar that a plant was even constructed to produce artificial caviar from gelatin.

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Salmon Markets are Changing

Historic Columbia River Salmon Production

The salmon from the Columbia River system have always been a source of food and income for residents of the Pacific Northwest. Salmon, to the Indians living along the Columbia River, was their lifeblood, essential to their subsistence, their culture and their religion. The first (non-Indian) use of the fishery products in Oregon was the packing of salmon. Development of the canning process in the mid 1800's created a huge demand for salmon, and the lower Columbia River became the West Coast center for the packing industry.

In 1892, for example, the total amount of pounds landed in the Columbia River was 33.5 million pounds, valued at about \$1.1 million. At today's approximate prices, these 1892 landings would be valued at about \$87.6 million.

around 20 million pounds annually until the late 1940's. Since then the total poundage harvested has generally declined to its lowest level in 1993, when a total of just one million pounds of salmon were harvested commercially in the Columbia River.

Present World Salmon Production of Captured Salmon

As harvesting, processing and marketing technology has changed over time, so has resource production. With improved transportation, canning and cooling technology, much of the U. S. wild salmon productions has moved to Alaska. In 1994, Alaska produced 390,000 metric tons (MT) of salmon. A metric ton equals 2,205 pounds. This is about 40 percent of all of the 857,000 MT captured salmon in the world in 1994.

Chinook and coho are not as abun-

Farmed Salmon

With improved feed and disease control, a significant part of the total world salmon supply is now being produced by pen rearing. In 1995 aquaculture will produce about 40 percent of the total volume of salmon produced in the world. This is a dramatic shift from 10 percent in 1987.

About 75 percent of the farmed salmon produced are Atlantic salmon. Chile, Japan and Canada produce the bulk of the farmed coho. Canada is the only significant producer of farmed chinook.

Market Demand for Seafood

In the United States, per capita consumption of red meat has dropped between 1970 and 1993 from 132 pounds per capita per year to 112 pounds. Poultry has taken a dramatic increase from 34 pounds per capita in 1970 to about 61 pounds in 1993. Seafood enjoyed a gradual increase in consumption with a record 16.2 pound per capita consumption in 1987, but this has gradually decreased to about 15 pounds in 1994. Since that time, per capita consumption has fluctuated around 15 pounds per capita. since 1970 real seafood prices increased 36 percent, while real prices of food in general declined by one percent. Real prices for red meat declined 17 percent while real prices of poultry declined 31 percent.

For example:

Chinook (mostly spring chinook, caught April, May)	@ \$3.00	\$69.2 million
Sockeye	@ \$2.50	\$13.3 million
Steelhead	@ \$1.00	\$ 4.6 million
Silver	@ \$1.00	\$ 0.4 million
Total		\$87.6 million

Total pounds of salmon (and steelhead) utilized commercially in the Columbia River were as high as 46 million annually in the late 1910's and early 1920's. In more recent times the Columbia River has produces

dant in the open ocean as are sockeye, pink and chum. Captured chinook were about 2.7 percent of the total in 1994, while coho accounted for about 8 percent.

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A Book You Should Read...

Saving the Salmon: A History of The U. S. Army Corps of Engineers Efforts to Protect Anadromous Fish on The Columbia River

by Jon Westerholm, Member CRFPU

This is a very interesting work written by historian Lisa Mighetto, and fisheries biologist Wesley J. Ebel of the Historical Research Associates of Seattle, for the U. S. Army Corps of Engineers, North Pacific Division, Portland and Walla Walla Districts. It came off the press in the Summer of 1995 in paperback form and is available, free of charge, while copies last, from Dr. Bill Willingham, North Pacific Division Historian, U. S. Army Corps of Engineers, P O Box 2870, Portland, Oregon 97208-2870.

The history follows the agency's efforts from its early investigations in 1887, when Congress directed the engineers to report on the causes of the declining salmon runs, through today, when the Corps and other involved federal and state agencies and tribes are cooperating to recover sockeye and chinook salmon runs listed under the Endangered Species Act.

In doing research for this book, the authors conducted interviews with a variety of biologists and officials, both active and retired, from federal and state fisheries agencies as well as representatives of Indian tribes and environmental organizations.

The first chapter of about 50 pages is devoted partially to the commercial fishing industry in the early years with several very vivid charts, illustrations, and pictures. The Columbia River Fishermen's Protective Union is referred to in one place, but it is mistakenly called the Oregon Fishermen's Protective Union.

The lengthy title of the work makes it sound, at least to a commercial fisherman, a little propagandistic! Gillnetters can remember or have heard the stories about the initial inadequate methods of getting salmon over the concrete barriers such as with hydraulic buckets and no provision at all for the downstream passage of the fingerlings. Some engineers did not want to be 'bothered' with concerns of a scientist or biologist and one engineer "in a high place" was heard to have said "I don't know anything about fish except that they are a damn nuisance." One biologist during the construction of Bonneville Dam summed up the attitude of the engineers as "to hell with the fish. I'm here to build dams."

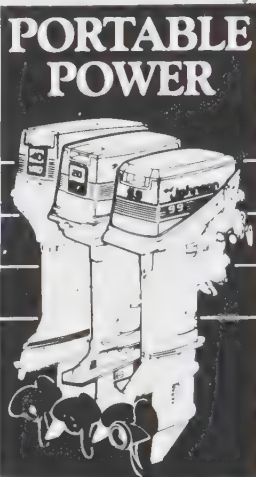
All in all, the authors do a very good, honest job of presenting the history of the Columbia/Snake River Dam building era and the attempts to facilitate and save the salmon. In writing the history "we sought neither to exonerate nor vilify the Corps." They have used footnotes very advantageously with endnotes at the end

of each of the 6 chapters. There is a very complete Bibliography of documents, manuscripts, articles, and books on the subject as well as the aforementioned interviews and an Appendix with several tables and graphs.

This book should be required reading for all people directly involved in the "save the salmon" syndrome that we find ourselves and certainly is interesting and

educational reading for everybody. There will be at least one copy available for checkout from Jack or Arlene at the Union office in Astoria.

At some point we must stop trying to change nature and the resultant degradation of our river and work to maximize the possibilities and efficiency of the Commerce that we can support on a healthy river. We way that time is now.



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A Story About Youngs Bay and the Tide Point Dilemma

In a story which begins way back in 1961, two fishermen decided to ask the Oregon Fish Commission to do some test fishing in Youngs River to see whether it would be feasible to gill-net in the fall for coho. Those two fishermen were Donald Herlin and yours truly Donald Riswick. We made a map and also took soundings to show the depth of the river all the way up to the mouth of the Walluski River entrance. This map did not show between the Yacht Club bridge and the old railroad bridge.

We then went to the Fish Commission's regular meeting and presented our case. As a result of our plea, they engaged a fisherman (George Kauppi of Astoria) to test fish that fall. As a result of his fishing, the following fall we were allowed to fish 5 days a week from the yacht club to Hess Farm. We were given a paper permit which we filled out every day and itemized what we caught. Upon finishing the week we were given a new permit for the following week. Twelve fishermen started fishing the first year. Other fishermen were laughing at us.

It wasn't too long before they stopped laughing and started building shallow nets for Youngs Bay. Donald Herlin never made a drift in Youngs Bay. He got a job on a dredge. In 1969 he died of a heart attack.

To begin with, there were no fish buyers and moorings were at a premium. CRPA Shipyard and the Yacht Club moorings (which were falling apart) took care of some boats. Later on, Ivan Larson put in floats to moor to, but it wasn't until Larson went ahead with the better docks, moorings and delivery facilities that the fishermen really flocked to Youngs River and made money.

In order to improve his facilities, Ivan took out a state loan.

In a story which begins in September, 1994, the Clatsop County Economic Development Council asked the state to help obtain funding for the Youngs Bay Terminal Fishery. In a letter dated September 22, 1994, Ivan Larson's lease was valued at \$100,000.

Ivan Larson was also told at the same time by local and state economic development officers that he was not getting an adequate or fair return on the use of his property and business which was being used by the terminal fishery operations. To help Mr. Larson figure what he should be paid as an annual lease, the state paid for an appraisal of the Larson property at 1820 SE Front Street. This property is also known as the Tide Point Grocery and Youngs Bay Fish Company property.

While this was happening, the state and federal government were requiring Clatsop County to enter into a formal lease agreement so that they could continue to receive federal and state funding for use of the Larson property. This terminal fishery operation is highly successful.

Just two years ago, 65,000 coho were harvested in Youngs River in the fall. That was more than what was harvested in the Columbia River that year. Of course, when El Nino was still on, some seasons flopped which was not Ivan Larson's fault. Many people, including the Governor, have come to Astoria to see the success story. I believe that Ivan has played a big part in this.

The County then prepared a written lease which it drafted for Larson to sign. This lease agreement was extended in October 1995 by the County and Larson. The lease requires that the County follow state and federal laws and pay Larson for the economic impact of the fishery. A later economic report prepared by Dr. Gilbert Sylvia of Oregon State University and paid for by the state shows that personal income generated in Lower Columbia communities has been \$11.7 million and over \$42 million to the West Coast Region.

When the delayed appraisal report came back from the appraiser in January, 1996, Larson says he smelled a rat. His property

was only valued as unimproved property at \$29,000 per year. Larson says he knew that his property was improved commercial marine property and absolutely not unimproved property. Larson then asked his boyhood friend Bill H. Williamson, now an attorney in Seattle, to look into the appraisal.

Bill Williamson, who grew up in Warrenton, and whose parents still live in Astoria, looked at the lease written by the County and what a normal commercial marine lease would be valued at. Missing from the first appraisal was the improved value of Larson's property. These improvements include some fairly expensive items such as surveying, building permits, Corps of Engineers permits, filling, rock rip rapping, grading, paving, and the construction of docks, piers, pilings, boat ramps, parking lot storage areas and the like. The report also included no value for Larson's overhead costs such as insurance, taxes, utilities, and maintenance. Williamson says *See Tide Point, page 29.*

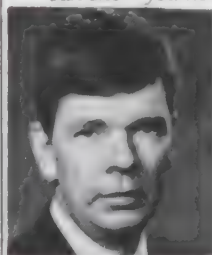
Economic impact of the Youngs Bay Net Pen Rearing Project:

... For the existing Youngs Bay Project and planned expansion, annual cost savings would total over \$ 8 million and \$ 14 million respectively... Expected personal income for the existing and expanded projects total \$ 6.7 and \$ 11.7 respectively, which still exceeds rearing costs. Expected personal income along the entire west coast however exceeds by almost a factor of four the Columbia River Community income. This is primarily due to the high interception rate of acclimated coho salmon by coastal fishermen... (Study by DR. Gilbert Sylvia, Marine Resource Economist, OSU, Coastal Oregon Experiment Center, Hatfield Marine Science Center, Newport, Oregon) [Editor's note: So why are they haggling over minor cost to Ivan's lease?]

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Tide Point

Continues from page 27

that for commercial marine property these are common costs which are usually passed on to the lessee for a fixed percentage, say 10% depending upon use.

Williamson also discovered that the economic report of Dr. Gilbert Silvia was not included. Together, he and Ivan Larson believe that all of these value factors easily placed his annual lease at \$100,000 per year, just like the County had earlier reported to the state in 1994 for 74 net pens. The County now wants to double the number of fish pens and pay Larson only \$25,000 for its annual lease. The County has not conducted its own appraisal to date, and has, according to Larson, essentially told him to "take it or leave it."

Larson, who has dedicated his life and services to sustaining this fishery, states that he has offered the County a base lease amount of \$35,000. The only condition is that the County at least ask the federal government and state for additional monies which the County itself recognized as being worth \$100,000 in 1994 for only 74 net pens. If the federal and state governments refuse to fund the difference of \$65,000, then Ivan Larson believes he has shared the risk equally with local fishermen and the County who have benefited from the fishery.

Larson, however, now suspects that for whatever the reason, the County will not ask for these additional state and federal monies even though they asked for these monies in 1994. Articles in the papers and statements by County officials have portrayed Ivan Lar-

son as a greedy, gouging landlord looking to get federal monies he is not entitled to. Yet, when the state's own independent appraisals are read together with earlier letters from the CEDC in 1994, it is obvious that Larson and his property is being grossly undervalued and unfairly used by the County.

Under these circumstances, Larson believes that the County is now behaving as squatters who can't pay their rent. He believes that the County is trying to skip paying a bill. Larson's attorney, Bill Williamson, believes that the County and CEDC are purposefully doing nothing. By trying to wait him out and let the lease term expire without paying Larson anything, Williamson believes that the County is planning to release the juvenile salmon after tagging operations are complete. He anticipates that the County will then simply remove the pens, leaving Larson high and dry without paying anything and forcing Larson to sue the County for reimbursement.

What this all means is unclear. Williamson says that under the lease, Larson can terminate the lease immediately. He asks this question: Why would the CEDC tell the world that Ivan's lease, which is the flagship of

coastal terminal fisheries, was worth \$100,000 per year in 1994 for only 74 salmon net pens, and then turn around two years later and tell Larson that he could only get \$25,000 for an expanded fishery with 140 net pens? We can't understand the arithmetic either and believe that Larson is being mistreated. If you think you know the answer, you should call Ivan Larson, your Clatsop County Commissioner, and CEDC with the answers.

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The Dammed Columbia

Taken from a report published by the National Wildlife Federation in June, 1959

The Columbia River Basin of North America is uniquely blessed in the variety and richness of its natural resources. Its torrents, collected in far-flung tributaries from the high and forested slopes of the Rocky Mountains and the Cascades, pour 180 million acre-feet annually in a rapid drop to the Pacific Ocean, making this river system potentially one of the world's richest sources of hydroelectric power.

In any basin the least expensive hydroelectric sources are developed first. While Columbia Basin planners are contemplating proposals on more expensive hydroelectric sites other sources of power such as the fossil fuels and atomic power are exhibiting promise of catching up cost-wise.

Attracted by the region's timber, minerals and other resources, including the hydroelectric supply, manu-

facturing has made great strides in recent decades, doubling the demands for more electrical power. The new Dalles dam on the main stem of the Columbia, whose turbines started turning in 1957, had a major share of its power output pre-sold to one aluminum company.

Population increased 65 percent to about 3 million in the state of Washington, and by the same rate to about 2 million in Oregon, in the two decades since 1940.

Although greatly reduced and now cut off from more than 60 percent of their original spawning areas by man-made obstructions, the Columbia's anadromous fisheries — five kinds of salmon and steelhead trout — still support a major industry. Since the mid-1940's a greatly accelerated sports fishery has entered the picture. As the economy of the sport fishery approaches that of the commercial it is inevitable that changes in philosophy and regulations will occur. Regardless of how the salmon are taken the demand for more of them gets greater. At present, much of the development of the Basin has been at the expense of salmon and steelhead.

The Columbia River can be developed in such a way as to utilize the energy of its falling waters, to control its floods, to manage its fisheries and other renewable resources on a sustained-yield basis, and at the same

time to save the best of its great scenic and wildness attractions.

Since some resources of the Columbia Basin have been developed at the expense of others, the public should insist that in the future all development will proceed only when it can be demonstrated that it is unnecessary to completely destroy important resources in order to utilize others.

Tributaries now open or relatively open to migrations of anadromous fish and presently supporting important percentages of the remaining salmon and steelhead fisheries, or which have high fish-producing potentials, must be kept open. Anadromous fish populations must not only be saved but should be enhanced and enlarged.

Until such time as new fish-passage devices have been discovered and proved to be effective in surmounting the deleterious effects now caused by dams on migratory fish survival, and new reservoirs authorized or constructed in the Columbia Basin must be confined to reaches and tributaries already closed to substantial runs of anadromous fishes by existing dams or natural barriers.

Research must be accelerated on problems related to the effect of dams on fish survival and on ways to overcome these problems. Complete answers to fish passage problems

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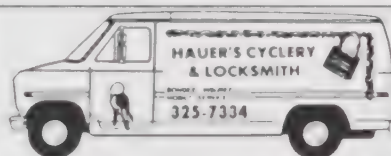
yhee, Swan Falls and other dams. The available spawning waters have been further restricted — how seriously is not yet known — by the new Brownlee and Oxbow dams on the Snake River, by Pelton dam on the Deschutes, Mayfield on the Cowlitz and others.

Suggestions to save salmon include full development of dam sites within the blocked-off area for greatest power and flood control, while at the same time keeping the Clearwater, Grand Ronde, Imnaha, Salmon and Middle Snake as sanctuaries for fisheries production. Writing off any section unless the runs have been completely destroyed is not entirely necessary in all instances.

Other ways to help meet Northwest power needs beside building fish-killing dams might include: Hasten U.S.-Canadian cooperation in developing international parts of the Columbia; use

sanctuaries (upheld by the U.S. Supreme Court after long litigation). The FPC also authorized Mayfield Dam on the Cowlitz and Mossyrock. In both states valiant efforts by official agencies and citizen

groups have succeeded in getting them on the arduous trip to the spawning grounds. Salmon ordinarily arrive on desired spawning areas about the time when their reproductive organs are mature. A



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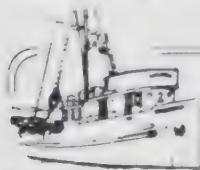
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series of delays in negotiating fishways over dams may greatly influence the delicate natural timing. Death before spawning, or ineffective spawning, may result.

Young salmon going downstream to the ocean follow the greatest flow of water through turbines and over spillways where many are killed. Death may be due to changes in water pressure, lack of oxygen, mechanical injuries and other reasons. "Skimming" devices, held promising by some, are actually experimental and not proven effective as yet. High dam losses are greater than on low-head dams. Several low dams may create cumulative losses greater than a single high dam. Until a sufficient escapement of young salmon to the sea is assured the downstream loss of young salmon may doom future stocks.

Listed below are important proposed Columbia Basin dams, including some of the apparent effects on fish and wildlife.

The Lower Monumental, Little Goose, Lower Granite, Asotin and China Gardens. These low-head navigation dams planned for the Lower Snake downstream from the proposed Nez Perce and High Mountain Sheep sites present a killing obstacle course for anadromous fishes. Similar to Bonneville, The Dalles, John Day and Ice Harbor dams, fish can be passed over but major losses occur at each. Cumulative damages may well destroy the entire runs on the Salmon, Grand Ronde, Clearwater and other spawning rivers.

The Nez Perce. 595 feet high, 6,000,000 acre feet storage. Would completely destroy great salmon and steelhead runs on the Salmon and Imnaha Rivers.

The Lower Canyon. 670 feet high, 3,700,000 acre feet storage. This dam on lower Salmon River would destroy great fish runs on that river. Dams at Freedom and Crevice sites on the Salmon would do similar damage.

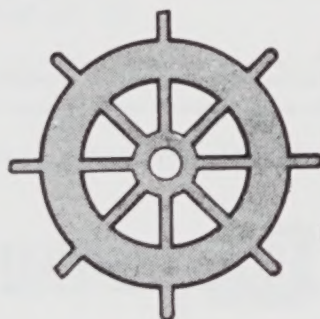
The High Mountain Sheep. 660 feet high, 3,240,000 acre feet storage. This dam would block the important fish runs of the Imnaha and upper Snake rivers.

The Penny Cliffs. 596 feet high, 3,430,000 acre feet storage. Would eliminate salmon and steelhead spawning areas.

The Wenaha. 570 feet high, 1,250,000 acre feet storage. Would block runs of salmon and steelhead on Grand Ronde River.

The Mayfield and Mossyrock. These dams would greatly reduce if not destroy salmon runs on the Cowlitz River, a key area of the Lower Columbia Fish Sanctuary Program.

Dams and other man-made changes undoubtedly exert influence on the Cowlitz and the Deschutes were to be kept free of new dams, and improved by removal of natural barriers and abandoned logging dams, and by construction of fish-passage de-



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Lower Granite, Asotin and China Gardens. These low-head navigation dams planned for the Lower Snake downstream from the proposed Nez Perce and High Mountain Sheep sites present a killing obstacle course for anadromous fishes. Similar to Bonneville, The Dalles, John Day and Ice Harbor dams, fish can be passed over but major losses occur at each. Cumulative damages may well destroy the entire runs on the Salmon, Grand Ronde, Clearwater and other spawning rivers.

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high without enormous losses.

Salmon require running water passing over gravel beds at correct temperatures and oxygen content for spawning. Impoundments change long stretches of stream bed into deep still pools. The proposed series of low dams for the lower Snake (Little Goose, Lower Monumental, Lower Granite, etc.) would flood and destroy 130 miles of stream now used for spawning, even though fish might pass these sights.

Salmon enter the Columbia from the ocean with adequate energy to sustain them on the arduous trip to the spawning grounds. Salmon ordinarily arrive on desired spawning areas about the time when their reproductive organs are mature. A series of delays in negotiating fishways over dams may greatly influence the delicate natural timing. Death before spawning, or ineffective spawning, may result.

Young salmon going downstream to the ocean follow the greatest flow of water through turbines and over spillways



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Journey of the Kings

continues from page 23

riparian habitat — Habitat along the banks of streams, lakes or rivers.

run — A population of fish of the same species consisting of one or more stocks migrating at a distinct time.

smolt — A juvenile salmon or steelhead migrating to the ocean and undergoing physiological changes to adapt its body from a freshwater to a saltwater existence.

spawn — The act of fish releasing and fertilizing eggs.

spill — Releasing water through a spillway that bypasses a dam's turbines. Spill is used to increase fish survival at dams without fish bypass systems.

stock — A population of fish spawning in a particular stream during a particular season.

supplementation — The release of hatchery fry and juvenile fish in the natural environment to quickly increase or establish naturally spawning fish populations. Also called outplanting.

transportation — Collecting migrating juvenile fish and transporting them around the dams using barges or trucks.

water budget — A block of water preserved for fish and released in spring to aid the survival of juvenile fish by increasing the mainstem Columbia's flow during the spring downstream migration period.

wild stocks — Genetically unique populations of fish that have maintained reproduction successfully without supplementation from hatcheries.

For more information or to request publications, contact the Public Affairs Division at the Northwest Power Planning Council's central office in Portland, Oregon.

Northwest Power Planning Council, 851 S.W. Sixth Avenue, Suite 1100, Portland, Oregon 97204 Telephone: 503-222-5161 or Toll Free: 1-800-222-3355.

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The Mayfield and Mossyrock. These dams would greatly reduce if not destroy salmon runs on the Cowlitz River, a key area of the Lower Columbia Fish Sanctuary Program.

Dams and other man-made changes undoubtedly exert influences on fish not yet even considered by biologists. Changes in temperature, water flows, chemical content, food supply and various combinations may be completely different at each impoundment with the result that what might work at one site would be completely wrong at another. Undesirable fish might thrive and the wanted kinds die out. Large reservoirs may reduce the instinct of certain salmon to migrate to the ocean. Adult upstream migrators might become hopelessly confused by numerous artificial devices, each one successful separately, to the extent that no spawning

is sufficient. Unknown factors are probably more important in attempting to save salmon and steelhead than are the obvious problems.

Research has not yet solved the problem of passing either young or mature fish over high dams. Nor has it eliminated delays and losses at a series of low dams. It has hardly scratched the surface in exploring the basic changes in environment caused by converting a running stream into slack-water reservoirs, or in finding out how reservoir drawdowns may best be managed to do the least harm to salmon and steelhead.

Biologists and engineers are working on devices which are intended to provide passage for adult and young anadromous fish over dams with minimum injury and mortality. They are experimenting with fish losses at turbines, studying electrical barriers, sonic guides, light attractors and other devices. Other work involves artificial spawning facilities. Little of this research is far enough along for proof positive breakthroughs on major problems. No one can predict when the answers may be found.

More research is absolutely necessary. Applied studies and basic fish behavior information are both vital if migratory fish are to remain a part of the grand plan for comprehensive development of the Columbia Basin. Even with unlimited funds and facilities the solving of these tremendous fish problems would tax the very best of America's reputed know-how. An even greater challenge is posed in the question of whether the public is willing to provide the funds for research or lose forever a vital resource and heritage.



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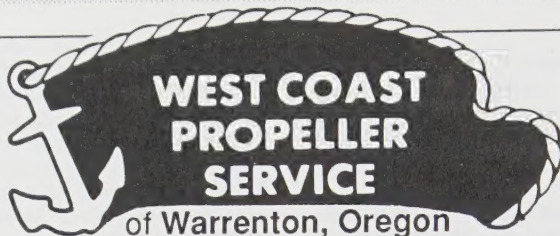
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